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CONTENTS AND SUBJECT INDEX

Tumors of the Breast. W. D. Haggard, M.D., and H. L. Douglass, M.D., Nashville, Tenn. 445

The Early Treatment of Cancer. Harry C. Saltzstein, M.D., Detroit....448

Hookworm Disease Among Persons Who Were Cured Five Years Ago. D. L. Sisco, M.D., New York....451

Sudden Death in Scarlet Fever. T. F. Krauss, M.D., Chicago....454

Diphtheria Prevention Among Children of Preschool Age in Manhattan and the Bronx in New York. A. Zingher, M.D., New York....456

Staining of Acid-Fast Organisms in Tissue. Benjamin H. Hager, M.D., and Rose Dersch, Rochester, Minn....460

Ventriculoscopy and Intraventricular Photography in Internal Hydrocephalus. Temple Fay, M.D., and F. C. Grant, M.D., Philadelphia....461

A Method for the Concentration of Cells and Bacteria in Prostatic Secretion. Foster M. Johns, M.D., New Orleans 463

Pneumoperitoneum as an Aid in the Diagnosis of Subdiaphragmatic Conditions. L. R. Sante, M.D., St. Louis 464

A Skin Cancer Following Exposure to Radium. W. J. MacNeal, M.D., and G. S. Willis, M.D., New York....466

CLINICAL NOTES, SUGGESTIONS AND NEW INSTRUMENTS

Fracture of the Head of the Femur, with Dislocation on the Dorsum of the Ilium. Guy Hinsdale, M.D., Hot Springs, Va....469

Postinfluenzal Herpes Zoster. Lester Hollander, M.D., Pittsburgh....470

Case of Cerebral Neoplasm Simulating Dementia Paralytica. Charles Rosenheck, M.D., New York....470

A Double Triangle Towel Shoulder-Cap. G. D. Cutler, M.D., Boston..471

A Case of Renal Glycosuria. William Allan, M.D., Charlotte, N. C....471

Hematuria and Appendicitis. Thomas W. Tormey, M.D., and Albert R. Tormey, M.D., Madison, Wis....472

A Simple Method of Using Giemsa's Blood Stain. M. W. Lyon, Jr., M.D., South Bend, Ind....473

SPECIAL ARTICLE

The Care and Feeding of Infants (Continued)....473

EDITORIALS

The Distribution of Metabolites in the Body....476

Seasonal Variability of Disease....476

Proposed Legislation Reducing Federal Narcotic Tax....477

David Harum: Monument to a Physician....478

CURRENT COMMENT

The Visit of M. Coué....479

The Weight of Children....480

MEDICAL ECONOMICS

The Physician's Income Tax....499

(Subject Index on next page)

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See Page 3

SUBJECT INDEX TO THIS ISSUE

The letters used to explain in which department the matter indexed appears are as follows: The Star (*) indicates an Original Article; "E," Editorial; "C," Correspondence; "T," Therapeutics; "Ml," Medicolegal; "P," Propaganda for Reform; "ME," Medical Economics.

A. M. A., annual meeting of Board of Trustees ... 481
Abortion, therapeutic, legal aspect of ... 512
Acroparesthesia, simple ... 516
Actinomycete, pathogenic acid fast ... 505
Anemia, pernicious, splenectomy in ... 518
Anencephalic syndrome and apituitarism ... 511
Anthrax, human, treatment of ... 512
advisory committee on ... 500
Antitoxins and animal experimentation ... 505
titrating ... 514
Anus, artificial, continence of ... 514
Appendices epiploicae, torsion of ... 508
Appendicitis and trauma ... 511
and hematuria ... *472
Arcus juvenilis ... 514
Arrhythmia, obesity with ... 518
Arsphenamin dermatitis ... 505
endolumbar treatment with ... 516
Arteriosclerosis and neurasthenia ... 492
Artery, hepatic, ligation of ... 513
Asthma, pathogenesis of ... 518
Ataxia, congenital ... 514
Atlas, fusion of, with occipital bone ... 513
Bandage, double triangle towel shoulder-cap ... *471
Blackwater fever ... 510
Bladder during delivery ... 516
syphilitic disease of ... 517
Blepharitis and its treatment ... 518
Blood, bilirubin in ... 515
biologic reactions during pregnancy ... 516
collateral circulation in portal vein system ... 515
nonprotein nitrogen in, in pregnancy ... 516
pressure, high ... 507
rate of sedimentation of erythrocytes ... 518
stain, Giemsa's, simple method of using ... *473
sugar, influence of carbohydrates on ... 516
transfusion ... 517
Bone, local development of ... 515
Book Notices ... **501**
Books Received ... **Adv. page 30**
Botulism bacillus in California ... 506
bacillus in United States ... 506
bacillus, isolation of ... 506
bacillus, pathogenicity of ... 507
heat resistance of spores ... 507
spores in Alaska and Canada ... 506
spores in Belgium and other countries ... 507
spores in Hawaiian Islands and China ... 507
Brain, hydatid cyst in ... 514
spirochaeta recurrens in ... 515
tumor simulating dementia paralytica ... *470
Breast cancers in men ... 515
tumors, study of 255 cases ... *445
Burchardi and elixir of life ... 489
Cancer, early treatment of ... *448
of skin following radium ... *466
research prize ... 487
stalagmons in ... 517
tar ... 512
Carbohydrates, influence of, on blood sugar ... 516
Chemotherapy, future problems of ... 490
Children, the problem child ... 508
weight of ... E-480
welfare ... 514
Cockroaches, rôle of, in disease ... 509
Colon dilatation (megacolon) ... 511
Congress on "Logopädie" ... 487
Conjunctiva, dermoid of ... 509
Convalescent homes listed ... 486
Correspondence ... **496**
Coué, visit of ... E-479, 500
Cysts, traumatic epithelial ... 515
David Harum: monument to a physician ... E-478
Deaths ... **494**
Dermoid of conjunctiva ... 509
Diabetes cause of ... 510
in children ... 514
insipidus ... 511
insulin in ... 510
Diphtheria prevention among children of preschool age ... *456
Immunity Test (Schick Test) ... 475
prevention of ... 509
Schick test and toxin-antitoxin in prevention of ... 507
toxin-antitoxin, results of active immunization with ... 508
Disease, seasonal variability of ... E-476
Drugs, dangerous regulations in Victoria ... 489
Dyspepsia, investigations of ... 510
Echinococcosis of brain of children ... 514
Eczema, infantile, treatment of ... 505
Elbow, transolecranon operations ... 512
Electric shock from house current, death from ... 496
Employer, medical services for which employer is not liable ... Ml-503
Encephalitis, epidemic ... 518
Endocarditis lenta ... 513
Endocrine symptoms, general ... 513
Epididymitis, tuberculous, with fistula ... 514
Epilepsy, potassium bromid and borax in, with megacolon and polymastia ... 508
Epinephrin, action of, in blood diseases ... 516
Esophagus strictures, treatment of ... 517
Eye, arcus juvenilis ... 514
Eyelid, ptosis of, operative treatment of ... 514
Femur, fracture of head, with dislocation on dorsum of ilium ... *469
Fingers, contracture of ... 513
Foreign Letters ... **489**
Gallbladder calculi, operations for ... 514
Genital flora, origin of ... 516
Giemsa's blood stain, simple method of using ... *473
Glucose in heart disease ... 516
Glycosuria, alimentary ... 516
alimentary, in pregnancy ... 515
renal, case of ... *471
Glycuronuria in pregnancy as index of liver function ... 513
Goat's milk ... *473
Goiter, conditions leading to death in ... 515
etiology of ... 515
exophthalmic, auricular fibrillation in ... 518
partial thyroidectomy better than medical treatment of ... 511
Government Services ... **488**
Harrison Law, proposed legislation reducing narcotic tax ... E-477
Heart, auricular fibrillation, quinidin sulphate in ... 508
auricular fibrillation in goiter ... 518
disease, infusion of glucose in ... 516
sounds, amplified audibility of ... 493
Hematoma, encysted, of spleen ... 512
Hematuria and appendicitis ... *472
Hemoclastic crisis ... 517
Hemorrhage, gynecologic, indirect roentgenotherapy ... 518
Hernia, diaphragmatic, perforation of stomach in ... 512
Herpes zoster ... 512
postinfluenzal ... *470
Humerus, supracondylar fracture of ... 513
Hydrocephalus, internal ... *461
Hysteria and psychanalysis ... 492
Ileum, ulcers of ... 512
Illegitimate children, maintenance of ... 489
Imbecility, clinical and medicolegal aspects of ... 492
Income tax, physician's ... ME-499
Infants, habitual vomiting in ... 514
care and feeding of ... *473, C-496
Influenza, deaths from, in large cities ... 486
epidemic ... 486
postinfluenzal herpes zoster ... *470
Injections, intraperitoneal infusion ... 514
Instrument, thoracic abdominal gate ... 507
Insulin in diabetes ... 510
Intestinal flora, transformation of, by lactose ... 508
Itching, cause of, in wound healing ... 496
Jenner centenary ... 488, 489
Labor, bladder during delivery ... 516
Lactose, transformation of intestinal flora by ... 508
League of Nations and international health course ... 488
Leprosy in Argentina ... 514
in Spain ... 491
nodular, in Sudan ... 509
Leukorrhea, etiology of ... 517
Liver, function ... 513, 517
insufficiency ... 512
nonparasitic cyst in ... 513
Madura foot ... 496
Malaria parasite, new ... 509
Marriages ... **494**
Measles, prophylaxis of ... 515
Medical Education, Registration ... **497**
Medicolegal ... **503**
Metabolites, distribution of, in body ... E-476
Milk, organotherapeutic action of ... 512
Monocytes ... 516
Narcotic drug violators, punishment for ... 486
hearing on narcotics before house committee ... 488
tax, proposed legislation reducing ... E-477
National Board of Medical Examiners, report of 14th examination of ... ME-497
Nerve grafting, double ... 515
Neurasthenia, arteriosclerotic ... 492
New and Nonofficial Remedies ... **475**
News ... **482**
Obesity ... 492
endocrine ... 516
with arrhythmia ... 518
Occipital bone, fusion of, atlas with ... 513
Omentum, torsion of ... 506
Opium, control of drug traffic ... 489
Orth, Johannes, death of ... 493
Osteitis, hereditary ... 513
Osteo-arthropathy, endemic ... 517
Osteomalacia, endemic ... 517
Ovary, cysts in pregnancy ... 514
Paranephritis, bilateral pneumococcus ... 517
Pasteur centennial ... 491
Phlebitis, typhoid ... 514
Physical examination, reporting result of ... Ml-504
Physician not liable for death of child from eating tablets left for adult ... Ml-503
Pituitary body, apituitarism and anencephalic syndrome ... 511
Placental grafts ... 513
Pneumococcus paranephritis, bilateral ... 517
Pneumonia, deaths from, in large cities ... 486
Pneumoperitoneum ... *464
Portal vein system, collateral circulation in ... 515
Pregnancy, alimentary glycosuria in ... 515
and tuberculosis ... 511, 512
biologic reactions in blood during ... 516
extra-uterine ... 518
injury to pregnant woman ... Ml-504
nonprotein nitrogen and toxicoses of ... 516
ovarian ... 518
ovarian tumors in ... 514
spontaneous and induced glycuronuria as an index of liver function in ... 513
Prize, Heubner, in pediatrics ... 488
Sofie A. Nordhoff-Jung cancer research prize ... 487
Prohibition in America ... 490
Propaganda for Reform ... **495**
Prostate secretions, method for concentration of cells and bacteria in ... *463
Prostitution, bill to repress ... 488
Protein therapy, treatment by nonspecific passive protection or inactivation of protoplasma ... 516
Psychanalysis and hysteria ... 492
Purpura, injection of human blood in ... 511
Queries and Minor Notes ... **496**
Rachitis, late, endemic of ... 517
Radioactive substance in fluid form ... 518
Radium, skin cancer following exposure to ... *466
Rheumatism, treatment with casein ... 511
Roentgen, death of ... 487
Roentgenotherapy, indirect, in gynecologic hemorrhage ... 518
Scarlet fever, sudden death in ... *454
Schick Test ... 475
Seasons, seasonal variability of disease ... E-476
Secretin ... 511
Serums, international conference on standardization of ... 492
Shepard-Towner law, case against ... 487
Shoulder-cap, double triangle towel ... *471
Skin cancer following use of radium ... *466
Spirochaeta recurrens in brain ... 515
Spleen, encysted hematoma of ... 512
Spondylitis, tuberculous, treatment of ... 512
Staining of acid-fast organisms in tissue ... *460
Stalagmons in cancer ... 517
State Board Examinations ... **497**
Stomach, gangrenous perforation of, in diaphragmatic hernia ... 512
stalagmons in cancer ... 517
ulcer, perforated ... 515
Swindler, fraudulent vendor of medicines ... 486
Syphilis, tardy inherited ... 514
Tetanus bacillus in soil and on vegetables ... 507
Thymic death in adult ... 513
Thyroidectomy, partial ... 511
Tonics and Sedatives ... **Adv. page 24**
Trauma and appendicitis ... 511
Triplets of tuberculous mother ... 514
Tuberculosis and pregnancy ... 511, 512
hospitals for advanced cases ... 509
Typhoid, pathogenesis of ... 516
phlebitis ... 514
Uncinariasis ... *451
Ureter, cystic enlargement of ... 517
Uric acid determination ... 517
Vagina, cicatricial atresia of ... 513
Vitamin content of certain proprietary preparations ... 510
Vomiting, habitual, in infants ... 514
Water metabolism ... 513
Weather, seasonal variability of disease ... E-476
Westcott, Edward Noyes, monument to ... E-478
Wound healing, cause of itching in ... 496

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TUMORS OF THE BREAST

A STUDY OF TWO HUNDRED AND FIFTY-FIVE CASES

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NASHVILLE, TENN.

We have collected in our clinic for the eleven years ending Jan. 1, 1922, 255 histories of breast lesions.

In 1910 no benign tumors were operated on; in 1921, 50 per cent. of the breast tumors removed were nonmalignant. This is a striking illustration of what education has done.

Many women apply for examination who have no lesion at all. This is due to improper palpation by the patient and sometimes by the examiner. Breast tissue, when picked up by the hand, gives an erroneous feel of a tumor; but when the breast is palpated by the tips of the extended fingers, it flattens out over the chest wall, and a lump can then offer definite resistance.

The average age of breast patients was 42.3 years. The youngest patient was a boy, aged 12, with a sarcoma of the left breast. A tumor had been in existence nine years, and involved the whole breast. There was metastasis in the mediastinum, as disclosed by the roentgen ray, and palpable secondary growths in the supraclavicular and infraclavicular glands. The case was inoperable. The oldest patient was a widow, aged 77; this case also was inoperable.

There were only ten males, and their average age was 41.2 years. The youngest patient was 12, the oldest, 59. The latter presented an enormous lipoma of the left breast which was first noticed eight years before. The tumor was about 6 inches (15 cm.) in diameter, and produced no pain except from its weight. The largest number of male patients came in the sixth decade.

The proportion of married women to single women was about four to one, which is the normal ratio.

Thirty-nine per cent. stated that they had had no injury or irritation, while 61 per cent. said that the affected breast had been subject to acute or chronic traumatism which might have accounted for the new growth.

The family history was positive for cancer in 29 per cent., and negative in 71 per cent. of the patients.

Table 1 will illustrate the various types of tumors found in this series.

There were 126 cases of malignancy, or 49.4 per cent. of all the patients, thus distributed: carcinoma, 120 cases; sarcoma, three cases; epithelioma, one case; malignant cysts, two cases.

The average age in the malignant cases was 49.2 years, which is about seven years more than the average age for the entire group including both types of disease. The youngest patient with carcinoma was a married woman, aged 27, with a small tumor about an inch (2.5 cm.) in diameter in the upper and inner quadrant of the right breast. It had been in existence six months. The tumor was apparently not growing, and was symptomless. The patient was treated by excision of the tumor, followed by roentgen-ray exposures. This patient is at present well, five years after the excision. Thus, from our study it is safe to say that a tumor in the breast of a woman under 27 is nonmalignant. If the lump occurs in a woman under 20 and is not growing, it is the only exception to immediate operation, but should be kept under competent and regular observation.

Nine of these patients with a condition diagnosed recurrent carcinoma had an average age of 44.1 years, five years below the average of the primary cases. This bears out the observation that the younger the patients having cancer, the harder they are to cure and the more likely it is to recur.

The malignant group included four males and 122 females. All three sarcomas occurred in males, and the fourth male was a physician with carcinoma of the right breast.

The incidence of cancer was about equally divided between the two breasts. In only one case were the two breasts involved simultaneously. In one third of the malignant cases there was a family history of cancer, and in two thirds there had never been a case of cancer in the family. This is fair evidence that heredity plays little part in the etiology of cancer.

The average duration of the malignant tumors before operation was thirty-three months, the shortest period of time being one week, and the longest forty-two years. The next longest was thirty years. Excluding these two unusually long cases, the average preoperative duration was twenty-six and one-half months. The average duration of the recurrent carcinomas before the original operation was forty-two months, which is about fifteen and one-half months longer than for the primary cases. The shortest duration was eight weeks, and the longest, twelve years.

One hundred and three patients were operated on for various types of malignancy. In nineteen others, or about one in five cases that came under our observation, the condition was considered inoperable. Three of these were recurrent. Three others were operated on elsewhere and came to us for irradiation. In one case the

type of treatment was not recorded in the history. In 20 per cent. there was no palpable metastasis; in 60 per cent. there was axillary metastasis only; in 20 per cent. there was axillary and other metastasis as well.

There were 108 operations done on 103 patients, of which eighty-seven were complete operations (routine axillary dissection). Five of these patients had recurrence in the opposite breast, and a radical operation was performed on the second breast, making a total of 108 operations. Of these five patients, one died in the hospital from cerebral embolus; two died within a year after the second operation; one could not be traced, and one remains well at the present time, fourteen months after the second operation.

Five amputations were done in very early cases in which there were no evidences of malignancy or of metastasis. There were no recurrences. Three others

TABLE 1.—TYPES OF TUMORS

	Number
Adenocarcinoma	83
Recurrent carcinoma	9
Scirrhous carcinoma	18
Encephaloid carcinoma	1
Medullary carcinoma	5
Mucous carcinoma	1
Large cell carcinoma	1
Beginning carcinoma	2
Precancerous	1
Epithelioma	1
Sarcoma	3
Recurrent sarcoma	1
Papillomatous cyst	1
Blue dome cyst	11
Malignant cyst	2
Chronic cystic mastitis	19
Acute mastitis	2
Suppurative mastitis	2
Fibro-adenoma	28
Adenoma	9
Fibroma	10
Neuroma	1
Lipoma	2
Scleroderma	1
Dermoid	1
Galactocele	6
Tuberculosis	2
Wart	1
Glandular enlargement	1
Bleeding from nipple	6
No tumor	5
Abscess	4
Intracanalicular fibroma	1
Intracanalicular fibro-adenoma	5
Intracanalicular myxofibroma	5
Intracanalicular myxo-adenofibroma	1
Intracanalicular papilloma	2
Chancre	1
Total	255

were done merely as a palliative measure, two of these three being recurrent cases. Three excisions were also performed in very early cases. The remaining three were palliative. Including nine radical amputations of the breast for benign lesions and five done for recurrences in the opposite breast, in the malignant cases, there were 101 complete operations. In two instances the pectoral muscles were not removed. In two instances the wound could not be closed and had to be treated with skin grafts. In two other instances the growth was ulcerated and infected to such an extent that the actual cautery was used for purposes of sterilization and excision. Both of these patients died within two years after the operation.

There were 129 benign lesions of the breast. There were eleven instances of blue dome cysts and one papillomatous cyst. Chronic cystic mastitis occurred nineteen times, acute mastitis twice, and suppurative mastitis twice. The cystic process is most frequent at or about the menopause, and gives a nodular or "cobblestone" feeling, caused by the fibrous tissue that surrounds the cysts. There were four abscesses, or 3.1 per cent. of the benign lesions. There were two cases of primary tuberculosis of the breast, or 1.5 per cent. of the benign group. These presented chronic abscesses and multiple sinuses. There were fourteen intracanalicular growths, including two papillomas. Dermoid cyst of the breast occurred once. There was one case of chancre of the breast. The chancre developed near the nipple of the right breast in a married woman, aged 24. This mother had employed a colored woman to look after the child, who was 10 months old. The colored woman infected the child with syphilis, the baby developing a chancre of the lip. The mother allowed the child to nurse, and in this way became infected.

The patients with innocent breast lesions came for treatment at an average age of 36.1 years, which is thirteen years younger than the average among the malignant series. The youngest patient was a youth of 16 with mastitis of the left breast of one year's duration. No operation was performed in these cases. The oldest patient was a married woman, aged 60, who had had an intracanalicular fibro-adenoma of the left breast for about eight years, which was excised.

The average duration of the lesions was fourteen months, as against twenty-six and one-half months for malignant growths. Who can say how many of these benign lesions at fourteen months would have been malignant at twelve and one-half months later?

In the benign group the family history was positive for cancer in 73.8 per cent. of the cases, and negative in 26.2 per cent. This negatively proves that heredity plays little or no part in the occurrence of cancer. It is interpreted to mean that the fact that nearly three fourths of these patients knew of the occurrence and believed in heredity caused them to apply earlier for advice. Only about one third of the cancer patients knew of any heredity, and they delayed operation more than twice as long as the patients with benign growths.

Practically all women over 25 with single lumps in the breast are advised to have them removed. The frank, movable adenomas are generally removed under a local anesthetic. They present a typical appearance on section, and are encapsulated. The blue-dome cyst is easily recognized and always benign. These two groups fortunately comprise the majority of innocent tumors.

Nearly all nonencapsulated tumors are malignant, and if all such are submitted to the radical operation, Bloodgood estimates that only 15 per cent. will be found noncancerous.

Operations were performed on eighty-nine patients with benign lesions. In two patients, tumors were removed from both breasts at one sitting, and two other patients returned later with an innocent growth in the opposite breast, which was removed in a second operation. In all, then, there were ninety-three operations performed.

The radical operation for the removal of the breast was performed nine times for these benign pathologic conditions: chronic cystic mastitis, four times; fibroma (large as child's head), once; intracanalicular fibro-adenoma, once; tuberculosis, once; suppurative mastitis, once, and cyst (papillomatous), once.

The remaining forty patients were not operated on. The clinical diagnoses in the benign cases were: chronic cystic mastitis, 6; intracanalicular papilloma, 2; fibro-adenoma, 14; acute mastitis, 2; abscess, 1; chancre, 1; glandular enlargement, 1; no pathologic condition, 5;

dermoid, 1; scleroderma, 1, and bleeding from the nipples, 6.

In the six cases of bleeding nipples, operation was not performed because there was no tumor and no ulceration; but these patients were kept under surveillance until the discharge ceased with or without treatment.

On the other hand, a number of cases of tumor, symptomless except for a bloody discharge from the nipple, proved to be cancer, and operation was performed.

The clinical diagnosis of the malignant or nonmalignant nature of the breast tumor is not always possible in the early cases. In this series there were thirteeen patients with all the clinical signs of benign tumor. In each of these cases the tumor was excised under local anesthesia for microscopic examination, and proved to be cancer. Eleven of these tumors were excised in our clinic, and two operated on elsewhere and referred to us for the radical operation. All of them had the radical amputation performed except one patient, who refused to submit to any further surgical effort. The longest period of time elapsing between the local excision and the radical operation was five and one-half months, and the shortest was one day. Only nine patients submitted to radical surgery on the day set by the surgeon, which was, on an average, four days after the local excision. Of these thirteen patients, two are now dead. One patient lived three years following her Halstead operation, and died of a recurrence. The other survived two years, and died of cancer of the stomach. Eleven patients are now living and well. Four of them have survived one year; two have remained well for two years; two for four years; one for six years; one for nine years, and one for ten years.

The two-stage operation is not advised. Immediate radical removal after exploratory incision confirms the malignant nature of the growth and is undoubtedly the ideal method. At the present time a frozen section is done on all questionable neoplasms, and a report made within two or three minutes as to the malignant or nonmalignat nature of the tumor. If malignant, the radical operation is proceeded with at once.

When the surgeon cannot be certain, and a trained pathologist is not immediately available, our experience shows that wide excision of the growth, followed by microscopic study and early secondary operation, is not as dangerous as we have been led to believe.

The patients who presented unmistakable signs clinically of cancer are too advanced for an assured expectancy of permanent cure. By the external or clinical signs of malignant tumors is meant such evidence as skin involvement manifested by bulging and dimpling of the skin, retraction of the nipple, fixing of the skin over the tumor, a "pigskin" appearance and, in the more pronounced cases, breaking down and ulceration. Immobilization of the tumor, an unusual degree of firmness to the touch, and nonencapsulation associated with immobilization are clinical evidences of malignancy. Not only must the diagnosis be made, but the operation must be performed before such manifestations appear in order to bring about a permanent cure. To reach a conclusion while the tumor is most amenable to surgery, microscopic evidence alone is of diagnostic importance. It has been shown that malignancy exists in tumors that are small, encapsulated and movable, in tumors without any of the external clinical evidences of malignancy.

The laboratory diagnosis was incorrect in four cases in the entire group. Three malignant cases were reported benign, and a benign tumor in a lactating breast was reported malignant.

The malignant series of cases constituted a group in which the pathologic changes were very far advanced. A great many of these cases were well nigh desperate, and in some, perhaps, operation should not have been performed. A frail, wizened woman with a withered, malignant breast firmly fixed to the chest wall will live longer at that stage if not operated on. A study of the group as a whole brings this out in the following manner:

Nineteen were inoperable.

Four others were recurrent.

Ten were ulcerating.

Two patients had local excision elsewhere and came to the clinic for radical operation after undue delay.

Two patients who had undergone local excision in the clinic wilfully and knowingly delayed the radical operation, in one instance one month and in the other five and one-half months.

Three cases were in lactating breasts, which decreases the chances for cure almost to the vanishing point.

Two cases occurred in diabetics.

Two patients had edema of the arm from large metastatic growths in the axilla.

There were no deaths among the eighty-nine patients operated on for benign conditions, and no known recurrences among the 129 patients of the nonmalignant group. There were, however, five deaths in the hospital following operations for malignancy, a primary mortality of 4.2 per cent. One patient died of diabetic coma on the fourth day, after two weeks of the Allen treatment had rendered the urine sugar-free. One died of infection on the fifth day, one of pneumonia on the sixth day, and two of embolus, one on the second day and one at the end of two weeks. Thus, only one patient died of a preventable surgical complication, which would make the actual surgical mortality 0.8 per cent.

TABLE 2.—END-RESULTS IN CASES CONSIDERED SURGICAL AND IN WHICH OPERATION WAS PERFORMED

		Per Cent.
1910-1916	—5 to 11 year cures	45.7
1917	—4 year cures	50
1918	—3 year cures	58.3
1919	—2 year cures	61.5
1920	—1 year cures	64.2

Of the 126 patients with malignant disease, 111 were traced. Of the total number, there are living 47.7 per cent. This, however, includes some of the inoperable cases of recent date. Of the patients operated on and living, three are known to have recurrences.

Patients who were operated on and who died, lived on an average a little more than twenty months.

Patients whose conditions were considered inoperable lived, on an average, nine months after their consultation. Two of these patients had palliative operations and an average postoperative life of only two months, or an existence seven months shorter than those who were left alone. The entire course of the disease from beginning to death, in the untreated cases, covered an average period of twenty-five and one-half months, which is shorter than the preoperative duration given by those patients treated surgically, thus showing the relative virulence of the rapidly growing inoperable tumors.

SUMMARY

1. No malignant tumor of the breast occurred in a woman under 27.

2. The average age of patients with cancer of the breast was 49.2 years.

3. In cases of recurrent carcinoma, the patients were five years younger than in the primary cases.

4. All sarcomas occurred in males, and constituted 2.3 per cent. of the malignant cases.

5. In only one third of the malignant cases was there a family history of cancer.

6. In two thirds of the cases in which the lesions were benign, the patients gave a positive family history for cancer which probably caused them to apply for examination even though their lesions were benign.

7. The average duration of cancer before operation was twenty-six and one-half months.

8. One case in five was inoperable.

9. Patients with benign lesions had an average age of 36.1 years, which was thirteen years younger than in the malignant cases.

10. The average duration was fourteen months, as against twenty-six and eight-tenths months for carcinoma cases.

11. From five to ten year cures in 111 traced cases of operations for cancer of the breast occurred in 45.7 per cent.

12. The preventable surgical mortality was 0.8 per cent.

706 Church Street.

THE EARLY TREATMENT OF CANCER*

HARRY C. SALTZSTEIN, M.D.

DETROIT

An important phase of any discussion of cancer is the campaign of education, which aims to make progress by wider utilization of the facts already at hand regarding the disease rather than by relying on the development of new procedures to increase the number of our cures. We already have sufficient knowledge to alleviate the suffering of many times the number of victims that we help at the present time, yet how much cancer *do* we cure? How soon does the average case become hopeless? How late are we when we ordinarily attack the disease, and therefore how much or how little chance will a given individual have? These are pertinent questions, unfortunately susceptible of only indirect answers; but they indicate the extent of the problem before us and, as such, should demand our attention.

The cancer problem of a community is not how many operative cures have been reported from various surgical centers, but how late cases receive treatment, and the results of treatment, in that particular community. With this point in view, an exhibit was attempted bearing on the treatment of the disease at Harper Hospital, as a cross section of an average situation.

As we had no figures of final three or five year cures, data were compiled for some of the commoner cancers, showing the percentage of total admissions for cancer in which radical treatment at the time of operation could be given, and how many patients survived operation; that is, the number of patients in whom treatment offered a chance of cure. A rough estimate of cures could then be made, based on the reports from the Mayo Clinic [1] of the percentage of resections in which patients remained cured five years. Figures were also available regarding the length of time symptoms were noted, and from these some of the difficulties of early diagnosis can be discussed. The data are from Harper Hospital records, chiefly 1918-1921, and will be presented arranged for stomach, colon, rectum and breast.

STOMACH

Thirteen of the eighty-two gastric carcinomas observed at Harper Hospital during the years 1918-1921 [2] were available for radical resection; i. e., 16 per cent. of the cases were operable (Table 1). Five of these, or 6 per cent. of the total, survived the operation. Estimating that in 25 per cent. of gastric resections the patients survive five years, we have cured less than 2 per cent. of patients with stomach cancers presenting themselves during the last four years. At Receiving Hospital,[3] the city institution, which draws its clientele from the indigent and those persons less able to afford medical service, during the same time there was no case in which radical resection could be attempted. In two thirds of the cases, gastro-enterostomy was impossible because of the extent of the growth. At Henry Ford Hospital, during the same period, there were twelve carcinomas of the stomach. One patient refused operation, five cases were found inoperable at exploratory incision, and five patients had a gastro-enterostomy performed; only one case was suitable for radical resection, and this patient did not survive operation.

Getting stomach cancers early enough to hope for a cure will always be a difficult problem. Lymphatic drainage from the stomach is profuse, as contrasted with the colon, and the lymph glands are accessible for only a short distance, as contrasted with the breast. Hence, cancer of the stomach is operable for a much shorter space of time than is cancer of the colon or breast, or, for that matter, than cancer in most other organs. The average duration of symptoms (Harper Hospital) before operation was 6.7 months—in less than seven months the disease was almost hopeless. This figure agrees with Smithies'[4] statistics. In his series, patients who were in perfect health prior to onset had symptoms for seven months, and those who had antecedent dyspepsia had a cancer symptom period of 6.3 months.

Clinically, there were two types of gastric cancer history: the one with years of antecedent ulcer indigestion, and the one which started suddenly from previous good health. The former type constituted only 24 per cent. (it might have been larger, had more detailed histories been available), the latter 76 per cent. In Smithies' careful analysis of a thousand cases, 47 per cent. showed years of antecedent indigestion, and 32 per cent. had had perfect health prior to the onset of symptoms.

It is significant that a definite time of onset was always stated, as five months or six months. The statement never was "gradual onset," "slowly began to notice." The patients had suddenly noticed that they were not well. Most of the antecedent ulcer histories

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* From the Surgical Service of Dr. Max Ballin, Harper Hospital.

* Read before the Surgical Section of the Michigan State Medical Society, June 9, 1922.

1. Mayo, W. J.: Operative Results in Cancer of the Gastro-Intestinal Tract, Collected Papers of the Mayo Clinic, 1912, p. 135.

2. Data for gastric carcinomas include the first six months of 1922.

3. For the data from Receiving Hospital I am indebted to Dr. C. F. Vale; for that from Henry Ford Hospital, to Dr. John K. Ormond.

4. Smithies, Frank: Cancer of the Stomach, Philadelphia, W. B. Saunders Company, 1916.

gave a definite period when the picture changed: dyspepsia became continuous, there was loss of weight, or some other abnormality was observed. The lesson is, persistent indigestion past middle life is suspicious —the slogan the American Society for Control of Cancer is trying to spread broadcast. Many mild indigestions will have to be thoroughly analyzed to find a few early cases. For the last two years, all the hospitals in Detroit have held special free cancer diagnosis clinics during national cancer week. In 1921, twenty-six gastric cases were examined, and two early cancers found. In 1922, a much larger number were examined, but no stomach cancers found. This may represent the average rewards of effort; but how else will carcinoma of the stomach be detected during the first three months? In six months the disease is hopeless in a large majority of cases.

The indigestion was often mild, and was more continuous and associated more frequently with flatulence and food aversion than is the chronic ulcer dyspepsia, and there was rapid loss of weight. There were a sufficiently large number of cases, however, in which the history was indistinguishable from ulcer to enjoin a heavy responsibility on the continued medicinal treatment of ulcer in middle life.

Every textbook describes carcinoma of the stomach as associated with persistent vomiting of food eaten one, two or three days before, of lactic acid, coffee grounds, etc. In only 15 per cent. of the cases was vomiting noted as a prominent symptom, and many of these had long ulcer-like histories. Long before obstruction develops, the disease is incurable. Rarely was there coffee ground vomitus; bleeding was not a prominent symptom. Medical education must stress the early symptoms, even though vague, rather than the later ones, if we intend to operate on stomach cancer early.

COLON

The average duration of symptoms in cancer of the colon before operation was eleven and one-half months. Of the total number, thirteen, or 28 per cent., were available for radical operation, and only seven patients recovered. That is, in 15 per cent. of the total number of cases there was a chance for cure (Table 1). On the supposition that in 40 per cent. of colon resections the patients were alive after five years, we may estimate that 9.2 per cent. of the patients presenting themselves at the hospital with cancer of the colon may have been cured.

The histories in this group were not detailed enough to classify symptoms. Homans,[5] in a careful analysis of the symptoms of cancer of the colon, notes that the contents of the proximal half of the intestine (cecum, ascending colon, half of the transverse colon) are fluid. Here, early symptoms are intermittent appendicitis-like cramps, and gaseous distention. It is only when the descending colon is reached that obstruction is prominent, for in this region the contents are becoming solid. Here the attacks of obstipation are intermittent, often associated with diarrhea (fermentation or putrefaction). The first portion of the bowel to show classical gradually increasing obstruction is the sigmoid. Gross bleeding first makes its appearance with tumors of the rectosigmoid junction. Thus, the symptoms of cancer of the colon are not obstruction, vomiting and blood in the stools. On the right side they are vague cramps and distention. On the left, gradually increasing obstruction. Only near the rectum is hemorrhage prominent. Again the early signs do not correspond to the classical textbook cancer.

RECTUM

The average duration of symptoms in cancer of the rectum before operation was eight months, a shorter period than in colon, longer than in stomach cancer. Radical operation was possible in sixteen cases, or 26 per cent.; and three quarters of these patients, or 20 per cent. of the total—much higher than in cancer of the colon—recovered. These figures are a bit obscured, however, by the fact that operative indications apparently differed, and the reliance placed on radium differed: where some operators would do extensive resections, others believed in more limited excision and heavy radium therapy.

TABLE 1.—OPERATIVE RESULTS ON APPLICANTS FOR CURE OF CANCER AT HARPER HOSPITAL

Organ	Year	Number of Applicants	Average Duration of Symptoms Before Operation, Months	Per Cent. Operable	Radical Operations			Applicants Recovering from Operation,* per Cent.	Cures 5 Years, Mayo Clinic, per Cent.	Estimated Total Cures of Applicants, per Cent.
					Number	Deaths	Recoveries			
Stomach.....	1918 to June, 1922	82	6.7	16	13	8	5	6.1	25	1.5
Colon.....	1918-21	47	11.5	28	13	6	7	15.0	40	6.0
Rectum.....	1918-21	62	8.0	26	16	4	12	19.0	30	5.7

* This refers to the number of operation recoveries for each hundred applicants

Mayo Clinic figures show 30 per cent. of patients who have had rectal resection alive after five years; therefore, 6 per cent. of our patients may have been cured.

Fourteen per cent. of the cases had a note in the history that hemorrhoids had been diagnosed; often treatment (such as salves or hemorrhoidectomy) had been previously given. Hemorrhoids are a frequent complication of cancer of the rectum, because of the increased vascularity. The impression gained by a perusal of the charts was that the early recognition of cancer of the rectum depends more on the attending physician than on the patient. It seemed that people were more likely to consult a physician for bleeding from the rectum than for constipation, dyspepsia or similar conditions. There were more patients who had noticed symptoms only a short while than in either of the other groups, and the larger number of early operations is perhaps explained by the fact that some of these patients had the proper advice. Routine high rectal examination will probably cure more cancer of the rectum than will popular propaganda.

BREAST

Because most breast cancers can be available for operation, estimates such as given for the stomach, colon or rectum cannot be stated. However, a rough approximation can be given: When the axilla is free from disease, the prognosis has been stated to be 80 per cent. of cures (Table 2). When the axilla is invaded,

5. Homans, J.: Symptomatology of Carcinoma of the Large Intestine, S. Clinics N. America 1:739 (June) 1921.

published figures show that the chance of cure is from 10 to 25 per cent. Of the patients coming to Harper Hospital from 1914 to 1920, 80 per cent. had metastases in the axilla; in only 20 per cent. was the axilla clinically free. That is, in four fifths of the patients, the chance of cure was 25 per cent.; in one fifth it was 75 per cent. (Table 2).

How early the axillary glands are involved, it is difficult to say. In twelve months they are uniformly infected.

It is easier to get breast cancer early than internal carcinoma, and it is certain that women are coming sooner for operation in this form than they did a few years ago. In 1914, the average duration of the tumor before operation was sixteen and one-half months. In 1920, it was ten months (Table 2).

Other figures are striking in this regard, and constitute an ardent testimonial to the efficacy of popular education. At Johns Hopkins [6] during thirty years, the percentage of benign lesions of the breast had changed from 32 to 59 per cent. of the total tumors of the breast, months). Our problem, therefore, is proper therapy certainly before six months, preferably before three months.

POPULAR EDUCATION

It is not the purpose here to discuss the means of popular propaganda, but two items in the experience of the free hospital clinics held in Detroit during cancer week in 1921 and 1922 may be briefly detailed. "Come early; in the early treatment lies the hope of cure" must be given to vast audiences, and must be periodically repeated. Interest in the subject must often be created, and it is not always easy to present it properly; but these two difficulties are diminishing as the ball of publicity gains impetus in its rolling.

More stress must be laid on the symptoms of the commoner cancers than on the rarer forms. Thus, cancer of the stomach comprises more than one third of all malignancies; cancer of the skin, only 3 per cent. To instruct an audience to beware of rodent ulcers, irritated papules, and the like, will not make for as much control as instructing them to beware of suddenly

TABLE 2.—AVERAGE DURATION OF TUMOR BEFORE OPERATION, AND PROGNOSIS, IN CANCER OF THE BREAST

Duration, Harper Hospital			Prognosis		
Year	Months			Axilla Uninvolved	Axilla Involved
1914	16.5				
1915	13.4		Johns Hopkins Hospital	85% cured (5 yrs.)	25% cured
1916	17.0		Rodman Hospital	80% cured (5 yrs.)	25% cured
1917	15.0	Axilla involved, 80%	Crile Hospital	80% cured (5 yrs.)	12-14% cured
1918	14.0	Axilla uninvolved, 20%	Massachusetts General Hospital		12-14% cured
1919	13.0				
1920	10.0				

TABLE 3.—PERCENTAGE OF CANCER DISCOVERED AT DETROIT FREE DIAGNOSIS CLINICS IN RESPONSE TO PUBLICITY (CANCER WEEK, 1922)

Hospital	Harper	Ford	Grace	St. Mary's	Providence	Receiving	Highland Park	Deaconess	Total	Pittsburgh Clinic
Total cases	98	78	27	38	27	28	12	13	321	122
Cancer cases	11	8	1	4	4	2	0	1	31*	12
Per cent. cancer	11.2	10.3	4	10.5	15	7.1	0	8	9.6	10

* Cancer of skin, eleven; cancer of breast, ten; cancer of uterus, seven; cancer of mouth, three.

and the progression has been steadily accompanied by a shortening in the duration of the disease.

The first operative procedure in acute appendicitis was a stab into the edematous fluctuating abdominal wall just as the pulse was beginning to flicker and respirations were becoming labored. Cures were few, and the operation was in disrepute. That is where these figures place the surgical cure of gastric carcinoma. Many good internists today doubt that gastric cancer is ever cured with enough frequency to be called a possible outcome in a given case. The next stage in appendicitis therapy was incision into the edematous wall before fluctuation developed. Cancers of the rectum and colon may be said to stand in about this stage—from 20 to 15 per cent., respectively, surviving operation, and from 9 to 6 per cent. perhaps being cured. In breast cancer, we are perhaps operating in the stage of early abscess formation (to continue the appendicitis simile). The operation is here done from the fifth to the twelfth day, and our patients have some reasonable chance of cure. The clean early appendectomy, in which no worry is given to the prognosis, is, in this series, nowhere in sight. It might be noted that most cancers come for operation between the sixth and twelfth month (stomach, six and one-half months; colon, eleven and one-half months; rectum, eight appearing indigestion. Furthermore, it is easier to deliver the message for external cancers than for internal, just as it is easier to diagnose external than internal cancers. This was noted in the results of the free cancer diagnosis clinics held during cancer week (Table 3). Twenty-eight per cent. of persons applying for examination in 1921, and 22 per cent. in 1922, came because the publicity made them suspicious of skin lesions—respectively, nine and seven times the normal ratio of incidence. Seventeen and 27 per cent. were suspicious of stomach cancers—one half and two thirds, respectively, of the normal ratio of incidence. Lesions of the colon and rectum show figures similar to those of the stomach, and breast and pelvic lesions occupy a middle position between external and internal growths.

The 321 patients of 1922 clinics were examined in eight different hospitals. Of these patients 9.6 per cent. were found to have cancer. It is curious to note how closely different groups of examiners found the same proportion of positive results. Thus, ninety-eight cases in one hospital showed eleven cancers; seventy-eight cases in another showed eight cancers; thirteen cases showed one cancer. In Pittsburgh,[7] in a similar clinic, of 121 patients examined, twelve were found to have cancers, as indicated in the accompanying chart.

6. Bloodgood, J. C.: Binnie Regional Surgery 1.

7. The Pittsburgh figures I have through the courtesy of Dr. J. E. Rush of the American Society for the Control of Cancer.

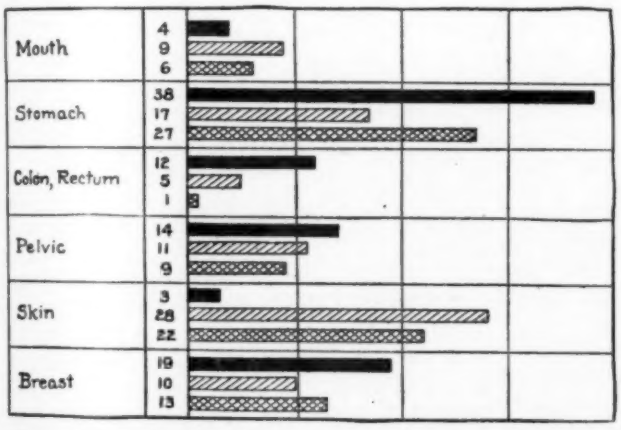
Perhaps further data will establish the fact that 10 per cent. of persons applying for examination in response to such publicity have cancer. Another 12.4 per cent. of these persons in Detroit had precancerous lesions (such as oral irritation, leukoplakia, benign tumors and pigmented mole), making the total cancer and precancerous conditions 22 per cent. In Pittsburgh, 13 per cent. had precancerous lesions, a total of 23 per cent.

CONCLUSIONS

1. The cancer problem of a community should be stated in terms of the lateness of adequate treatment, and results of treatment in that particular community.

2. When thus stated, in the group of cases analyzed, probable cures did not exceed 1.5 per cent. of total hospital admissions for stomach cancer; 6 per cent. for colon, and 6 per cent. for rectum. In 80 per cent. of breast cases there was already involvement of the axilla, with the probable prognosis of from 15 to 25 per cent. of cures.

3. Early rather than classical symptoms must be stressed in considering gastro-intestinal cancer, if cases are to be adequately treated earlier.



Comparison of normal incidence of cancer with response to publicity: black, percentage of incidence of cancer of different body organs (U. S. mortality statistics); shaded, percentage of distribution of lesions (not necessarily cancer) in patients brought to Detroit hospitals by cancer week; diagonal shading, 1921, 162 patients; cross-hatching, 1922, 321 patients.

4. As it is more difficult to diagnose gastro-intestinal cancer, it is likewise more difficult for the public to respond to warnings for gastro-intestinal cancer than for external growths.

5. Ten per cent. of the patients examined at several different clinics in response to cancer week publicity had cancer. Another 12 or 13 per cent. had precancerous lesions.

269 Rowena Street.

Normal Development of the Child.—The way the child functions probably is one of the most important ways in which to determine whether a child is really normal or not. That is a field in which the nurse has peculiar opportunities, perhaps far more in her public health work than has the physician. By the general appearance of the child, the brightness of his eyes, the redness of his lips, the plumpness and rosiness of his cheeks, the way he stands, the way he walks, runs and plays, how soon he is fatigued, how he sleeps, how he eats, how he functions throughout the day and night, these are all points of observation, and also points of fact which have a great bearing on whether a child is really normal or abnormal.—W. P. Lucas, *Hospital Social Service* **7**:5 (Jan.) 1923.

INCIDENCE OF HOOKWORM DISEASE AMONG PERSONS WHO WERE CURED FIVE YEARS AGO*

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This paper reports certain results obtained during a resurvey of an area on the island of Antigua, British West Indies, in which measures for the relief and control of hookworm disease were terminated five years ago. Both the treatment campaign, extending from September, 1915, to June, 1917, and the resurvey, made during April and May, 1922, were conducted under the auspices of the International Health Board of the Rockefeller Foundation. The paper is of interest primarily because it records the results of a careful study of hookworm infection among persons whom microscopic examination had previously shown to be cured of the disease. The findings which it presents are in complete accord with observations made by Smillie [1] under analogous circumstances in Brazil. It demonstrates certain fallacies in campaign procedure, and emphasizes the need for definite measures in order that permanent hookworm control may be attained.

PHYSICAL FEATURES OF THE ISLAND

Antigua is one of the Leeward Islands of the British West Indies. It is located in latitude 17° 5′ north and longitude 61° 50′ west, thus lying within the tropics. The island is 12 miles long, 9½ miles wide, and 70 miles in circumference. Its area is 108 square miles, or about 69,275 acres. Roughly speaking, there are three geologic areas: the limestone area, comprising the northeastern third of the island; the volcanic area, occupying the southwestern third, and, between the two, a broad, flat area called the Central Plain, which is undoubtedly an old sea bottom. This report deals with the entire southwestern third of the island, including practically all of the volcanic area and about half of the Central Plain. All previous hookworm studies indicated that the infection was heaviest in this section of the island, and it was therefore chosen for the resurvey. Without going into burdensome detail, it may be said that the conditions of soil, rainfall and drainage, as well as the physical characteristics of this region, are more conducive to the spread of hookworm disease than are those of other sections.

WORK OF THE ORIGINAL CAMPAIGN

During the treatment campaign of 1915-1917, 7,477 persons were examined in the area which was later resurveyed. Of these, 2,229, or 29.8 per cent., were found infected with hookworm disease. Of the infected persons, 1,972 were cured, so far as this could be determined by the microscope. The anthelmintic used was thymol, exclusively; the maximum dose given was 40 grains (2.6 gm.). Each person was treated until no hookworm ova could be found in the stools. The microscopic technic employed consisted of the examination of four fecal smears on 1½ by 3 inch glass slides; two such preparations were examined before, and two after, centrifuging. If hookworm ova were found on any of the four slides, the specimen was called negative. At the completion of the control cam-

* The studies and observations on which this paper is based were conducted with the support and under the auspices of the International Health Board of the Rockefeller Foundation.

1. Smillie, W. G.: The Results of Hookworm Disease Prophylaxis in Brazil, Am. J. Hyg. **2**:77 (Jan.) 1922.

paign, all treatment ceased, as no organization was left to carry on the work.

When the treatment campaign was practically finished, the authorities of Antigua built pit latrines throughout the resurveyed area and appointed part-time sanitary inspectors to see that these were properly maintained. No latrines have been constructed since February, 1920, and no organized hookworm-control measures have been in force since June, 1917.

RESURVEY FINDINGS

In April, 1922, a sanitary study of the resurveyed area disclosed certain facts bearing on the hookworm incidence. The region was a rural district, which, except for domestic gardens, was given over entirely to the raising of sugar cane. The population, which numbered 7,166, was made up entirely of negroes of the agricultural laboring class. The water supply, purely of surface origin, was entirely inadequate and was subject to surface contamination of all sorts, especially pollution with human fecal material. Undoubtedly, it plays a part in the dissemination of hookworm disease. Rural sanitation and hygiene were of a very primitive type. One hundred and forty-one latrines, all badly in need of repair, were found; this was one latrine for every fifty people. Of these latrines, ninety-one were built by government and fifty were the result of private initiative. No latrines were discovered in the fields. Overcrowding and the financial limitations of the health department are other factors disclosed by the sanitary survey which have relation to the incidence of hookworm disease.

TABLE 1.—INCIDENCE OF HOOKWORM DISEASE IN RELATION TO AGE AND SEX OF THE 1,234 PERSONS REEXAMINED IN 1922

Age, Years	Total			Male			Female		
	Examined	Infected	Percentage	Examined	Infected	Percentage	Examined	Infected	Percentage
6 to 18	243	44	18.1	121	28	23.1	122	16	13.1
19 to 40	503	116	23.1	191	51	26.7	312	65	20.8
41 to 60	340	65	19.1	147	21	14.3	193	44	22.8
Over 60	148	37	25.0	70	17	24.3	78	20	25.6

During the resurvey, 1,234 (62.6 per cent.) of the 1,972 persons cured in 1915-1917 were reexamined for the presence of hookworm ova. Of the remaining 738 persons, 184 were dead, 279 had left the island, 141 lived in places that were inaccessible during the time available, 34 could not be found, 100 refused to submit specimens, and 66 had failed to return their specimen containers when the survey was terminated. In order that the results might be comparable, identically the same method of examining the specimens was followed in 1922 as in 1915-1917.

In 1915-1917, the general mass rate of infection in the resurveyed area was 29.8 per cent. In 1922, 1,234 of the 1,972 persons who had been freed of hookworm in 1915-1917 were reexamined, and 262, or 21.2 per cent., of them were found infected. All the persons examined in 1922, however, were known to have harbored hookworms five years previously, and it was, therefore, thought probable that some of the infection was continued infection rather than reinfection. In view of this fact, a group of 300 persons was examined who were known to have been free from hookworms in 1915-1917. Of these, 16.3 per cent. were infected. Thus, although the number of persons examined in these two groups is far from equal, it is perhaps permissible to conclude that at least 4.9 per cent. of the infection found in 1922 among those cured in 1915-1917 is continued infection rather than reinfection. This figure is in keeping with results reported by Darling and Smillie,[2] who show clearly that it is futile to expect to eradicate *all* the worms by treatment, and that the microscope is not an infallible index of cure. Of the persons who were cured in 1915-1917, 78.8 per cent. showed no evidence of ova in the stools five years later. In view of the sanitary facilities available and living conditions in general, this cannot be said to be an unfavorable result.

REINFECTION IN RELATION TO AGE AND SEX

The infection rate in relation to age and sex among the 1,234 persons reexamined in 1922 is shown in Table 1. No similar data were collected in 1915-1917, so that a comparison cannot be made. It will be noted that no particular age group or sex shows an outstanding tendency to reinfection; the incidence of the disease is fairly evenly distributed throughout all the groups, although girls from 6 to 18 years of age show less tendency to reinfection than other groups. The great reservoir of present infection, in relation to the number examined, seems to lie in the group from 19 to 40 years of age. This is especially noticeable in the male group of this age.

OCCUPATIONAL INCIDENCE OF REINFECTION

Of the 1,234 persons reexamined in 1922, 894 were field laborers, sixty-three worked indoors, chiefly in sugar factories, fifty were housewives, and 227, who were under 18 years of age, were classed as children. The infection rates within these groups are presented in Table 2. Similar data for 1915-1917 are not available for comparison.

The large majority of the persons examined were field workers, and most of those included in the "housewife" and "children" groups spend considerable time in the fields. It is not surprising, therefore, to find the heaviest infection rates within these groups. But soil pollution is extensive, and there is ample possibility of "dooryard" infection for housewives and children. It is interesting to note that only two of the sixty-three persons who were cured in 1915-1917 and have since worked indoors were reinfected.

TABLE 2.—INCIDENCE OF HOOKWORM DISEASE IN RELATION TO THE OCCUPATION OF 1,234 PERSONS REEXAMINED IN 1922

Occupation	Examined	Infected	
		Number	Per Cent.
Field	894	210	23.5
Indoor	63	2	3.2
Housewife	50	11	22.0
Children	227	39	17.2

SHOE-WEARING A PROTECTION AGAINST INFECTION

The data concerning the infection rate in relation to the wearing of shoes show that of 960 persons who did not wear shoes at all, 214 (22.2 per cent.) were infected; of 245 who wore shoes part of the time, forty-four (17.9 per cent.) were infected; and of twenty-nine who wore shoes constantly, four (13.7 per cent.) were infected. As would be expected, the infection rate was higher among persons who did not wear shoes at all.

2. Darling, S. T., and Smillie, W. G.: Studies on Hookworm Infection in Brazil, Monograph 14, Rockefeller Institute for Medical Research, Feb. 1, 1921.

RELATION BETWEEN INFECTION AND HEMOGLOBIN INDEX

Tallqvist hemoglobin determinations were made by the field men; but as it was not possible to rule out all causes of anemia other than hookworm disease, the hemoglobin must be interpreted only as a very rough index of the intensity of infection. The results of these observations are recorded in Table 3.

Only 1.1 per cent. of the infected persons had hemoglobin readings below 60 per cent., and in these cases the low index may have been due to causes other than hookworm disease. It will be seen also that 24.4 per cent. of the infected persons had hemoglobin readings between 50 and 69 per cent. (no reading was below 60 per cent.), but that 229 (23.5 per cent.) of the noninfected persons had the same values; and 149, or 56.8 per cent., of the infected persons and 559, or 57.5 per cent., of the noninfected persons had hemoglobin readings between 70 and 89 per cent. Of the 251 persons who are known to have been free from hookworm in 1915-1917 and also in 1922, sixty-five, or 25.8 per cent., had hemoglobin readings between 60 and 69 per cent., while 172, or 64.1 per cent., had readings between 70 and 89 per cent. (Four of the 251 persons refused to allow the test.) Forty-six (17.5 per cent.) of the infected persons and 143 (14.7 per cent.) of the noninfected persons had hemoglobin values above 90 per cent. Thus, it is seen that the degree of anemia in infected persons was no greater than in noninfected persons; which is in keeping with the fact that it was almost impossible to differentiate clinically between infected and noninfected persons. This is undoubtedly explained by the brilliant work of Smillie in Brazil, who found that the infection rate was almost exactly the same after four years of hookworm disease prophylaxis as it was before, but the actual number of hookworms harbored by the treated persons averaged only fourteen, a number too small to cause symptoms. He therefore draws a definite distinction between hookworm *infection* and hookworm *disease*, feeling that the disease has been eradicated and that the remaining harmless infection will soon disappear owing to its self-limited nature.

TABLE 3.—HEMOGLOBIN (TALLQVIST) PERCENTAGES IN RELATION TO INFECTION WITH HOOKWORM DISEASE AMONG 1,197 OF THE PERSONS REEXAMINED IN 1922*

Hemoglobin, per Cent.	Number Not Infected	Number Infected	Total Number Infected, per Cent.
0-9	...	...	....
10-29	...	...	....
30-49	4	3	1.1
50-69	229	64	24.4
70-89	559	149	56.9
90-100	143	46	17.6

*Thirty-seven of the 1,234 persons reexamined refused the hemoglobin test.

CORRELATION BETWEEN NUMBER OF TREATMENTS RECEIVED AND REINFECTION

In 1915-1917, the only drug used in treatment was thymol. The number of treatments necessary before a "cure" was effected varied from one to seventeen. Table 4 shows the infection rate in 1922 in relation to the number of treatments given the same persons in 1915-1917 before they were pronounced cured.

It is interesting to note that, in the case of only three of the 1,234 persons reexamined in 1922, had hookworms been eradicated in 1915-1917 by one treatment of thymol, and none of these were reinfected. In general, as the number of treatments received in 1915-1917 increases, the rate of reinfection in 1922 increases, especially up to the eighth treatment. Darling and Smillie [2] have shown that the microscope is not a reliable index of cure, and that in persons harboring from five to twenty hookworms the ova may not be discovered in the stools. It is highly probable that many of these apparent reinfections, especially after the fifth or sixth treatment in 1915-1917, were continued infections.

INCIDENCE OF PARASITES OTHER THAN HOOKWORM

Table 5 shows the number and percentage of persons who in 1922 were found infected with intestinal parasites other than hookworm. The incidence of parasites in persons who were cured in 1915-1917 is contrasted with the incidence in persons who were not examined and not treated in 1915-1917. These data, however, do not represent an exhaustive search for parasites other than hookworm, but merely record the ova which were found during examination of specimens for hookworm ova. As soon as the latter were found, the specimen was discarded, and no further search was made for other parasites. In general, the persons who were treated and cured in 1915-1917 did not, in 1922, show a markedly decreased incidence of intestinal parasites other than hookworm, as compared with persons who were not treated in 1915-1917. The percentage of infection with *Ascaris lumbricoides* was less by 10.3 per cent., and with *Trichuris trichiura*, by 7.7 per cent., among those persons who were treated in 1915-1917. In 21.6 per cent. of the persons who were cured in 1915-1917, no parasites were discovered in 1922; while 19.7 per cent. of the persons who were not previously treated had no intestinal parasites in 1922. Five years after treatment for hookworm disease in an inadequately sanitated area, very little change had occurred in the parasitic content of the intestines of treated persons.

TABLE 4.—INFECTION WITH HOOKWORM DISEASE IN 1922 IN RELATION TO THE NUMBER OF TREATMENTS GIVEN IN 1915-1917 BEFORE A "CURE" WAS OBTAINED

Number of Treatments, 1915-1917	Results of Examination of the Same Persons in 1922		
	Number Examined	Number Infected	Per Cent. Infected
1	3	0	....
2	494	71	14.4
3	229	49	21.4
4	162	42	25.9
5	118	33	28.0
6	72	15	20.8
7	46	14	30.4
8	37	17	45.9
9	20	3	15.0
10	12	5	41.7
11	13	2	15.4
12	5	2	40.0
13	6	2	33.3
14	3	1	33.3
15	2	1	50.0
16	1	1	100.0
17	2	1	50.0
Not stated	9	3	33.3

EFFECT OF SANITATION ON RATE OF INFECTION

During the treatment campaign of 1915-1917, there were no latrines in the resurveyed area. In 1922, in the same area, there were 141 latrines and 1,966 inhabited houses, so that 7.1 per cent. of the homes had latrine accommodations. In 1915-1917, the infection rate was 29.8 per cent., and, in 1922, 21.2 per cent. In

other words, with an increase of 7.1 per cent. in the latrine accommodations, there was a fall in the infection rate of 8.7 per cent.

Table 6 is a brief summary of information obtained regarding the use of latrines by 1,234 persons who were cured in 1915-1917 and reexamined in 1922. Of these, it will be seen, thirty-three (2.6 per cent.) said they used latrines, and four of the thirty-three were infected; 1,201 (97.3 per cent.) said they did not use latrines, and 258 were infected. The table also shows that 98.5 per cent. of the reinfection occurred among persons who did not use latrines.

The decrease of 8.6 per cent. in the hookworm infection rate in 1922 cannot be attributed entirely to the treatment and sanitation work of 1915-1917. As already shown, 97.3 per cent. of the people examined did not use latrines; so it does not seem that sanitation could be responsible for much of the decrease. For ten months immediately preceding the resurvey of 1922, the average monthly rainfall in the resurveyed area was 31.2 per cent. less than it was during a similar period immediately preceding the treatment campaign of 1915-1917. Also, during the 1922 observations, the monthly rainfall was 64.9 per cent. less than it was during the 1915-1917 observations. Diminished rainfall and resultant surface conditions nonconducive to the development of hookworm larvae may account for much of the diminished infection rate in 1922. Approximately one-sixth as many persons were examined in 1922 as in 1915-1917, a fact which must also be considered in explaining the lower infection rate found in 1922. For all practical purposes, infection with intestinal parasites among the persons who were cured of hookworm disease five years ago may be said to have reverted to the same incidence existing before any treatments were given.

MEASURES NECESSARY FOR PERMANENT HOOKWORM CONTROL

The foregoing observations emphasize the obvious requirements for permanent results in hookworm control. It is evident that no treatment work should be started in an area which has not been previously sanitated. Varying opinions obtain as to the length of time that should elapse between sanitation and treatment, but a conservative estimate is six months. It is held by some that sanitation should accompany or follow the treatment campaign; but it seems logical to reduce the possibilities of reinfection to a minimum before treatment is undertaken. In a well-organized campaign, sanitation in a given district can always be completed during treatment operations in other districts. If this plan is followed, however, the sanitation campaign must be accompanied by much more educational propaganda than is necessary when it follows the treatment campaign, a measure which in itself is of considerable value to the community. Latrines should be built not only at the homes of the laborers but also in the fields where they work, for it is in the latter places that most of the infection occurs. The skin of the feet and legs should be protected from contact with infested earth by shoes or other covering. Intensive treatment work should not be discontinued until an organization competent to continue control operations is functioning. The construction of latrines is only the beginning of sanitation. Public health education is the power that keeps in motion the machinery of sanitation. An organization competent to maintain unrelaxed public health education, sanitation and treatment is essential to the maintenance of the results of hookworm-disease prophylaxis.

TABLE 5.—PARASITES OTHER THAN HOOKWORM WHICH WERE FOUND IN PERSONS REEXAMINED IN 1922

Parasites Harbored	Type of Case Examined	Infected	
		Number	Per Cent.
Ascaris lumbricoides	Cured*	592	48.0
	New†	175	58.3
Trichuris trichiura	Cured	543	44.0
	New	155	51.7
Strongyloides	Cured	307	24.9
	New	59	19.7
Schistosoma mansoni	Cured	72	5.8
	New	2	0.7
Balantidium coli	Cured	2	0.2
	New	..	....
No parasite	Cured	266	21.6
	New	59	19.7

* Cases of 1,234 persons who were "cured" in 1915-1917.
† Cases of 300 persons who were not examined and not treated in 1915-1917.

TABLE 6.—INFECTION RATE IN 1922 IN RELATION TO THE USE OF LATRINES

Population of the area	7,166
Number of latrines	141
Average number of persons using each latrine	50.8
Number of persons examined	1,234
Number found infected	262
Persons stating that they use latrines	33
Number infected among persons claiming to use latrines	4
Per cent. infected of number claiming to use latrines	12.1
Per cent. of total number infected	1.5
Persons stating they did not use latrines	1,201
Number infected among persons not using latrines	258
Per cent. infected of number not using latrines	21.5
Per cent. of total number infected	98.5

SUDDEN DEATH IN SCARLET FEVER

REPORT OF TWO CASES *

T. F. KRAUSS, M.D.
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During a period of nine years (1913-1921), 2,322 patients with scarlet fever were treated at the Durand Hospital, with a total mortality of eighty-five, or 3.7 per cent. In two instances, death occurred suddenly and unexpectedly with only slight premonitory signs, and when each patient appeared to be on the road to convalescence.

REPORT OF CASES

CASE 1.[1]—A previously healthy woman, aged 23, complained of sore throat, March 16, 1914, followed in six hours by a chill, headache, backache, nausea, a temperature of 103 F., a pulse of 110, and respirations numbering 24. The following day a typical scarlet fever rash appeared on the chest and rapidly spread over the body. There was a whitish exudate on the tonsils from which no diphtheria bacilli could be cultivated. The temperature ranged from 102.8 to 104.4 F., and the pulse from 110 to 120. March 18, the fever and pulse were about the same as on the previous day. There was a trace of albumin in the urine, with many leukocytes but no casts. Though next day the fever and pulse continued about the same, a few granular casts appeared in the urine, and the leukocytes in the blood numbered 26,350, of which 85 per cent. were polymorphonuclears. March 20, the temperature was from 101.5 to 102.8 F., the pulse 88 to 120. The cardiac apex was beneath the fifth rib, 2 cm. to the left of the midclavicular line, and hard to localize. As determined by percussion, the cardiac border was beneath the third rib about 3 cm. to the left of the midclavicular line on the left,

* From the Durand Hospital of the John McCormick Institute for Infectious Diseases.
1. This case was referred to by Rosenbaum (Arch. Int. Med. 26: 424 [Oct.] 1920).

and at the right sternal edge on the right. No murmurs or friction sounds were heard. On the morning of March 21, the sixth day of the illness, the patient felt and appeared better. The temperature ranged from 101.7 to 102 F., and the pulse from 110 to 114. The administration of an enema of 1,000 c.c. of salt solution was completed at 11:30 a. m., and it was expelled ten minutes later. At 11:45 a. m., with no exertion other than the expelling of the enema, the patient became cyanotic, pulseless, gasped a few times, and was dead at 11:50, in spite of stimulation and artificial respiration. No necropsy could be obtained.

CASE 2.—A woman, aged 34, was taken suddenly sick with a sore throat, fever and general aching, Sept. 28, 1921. She continued to have fever, headache and diarrhea, and on October 2, a rash appeared on the neck and chest and rapidly spread over the body. October 3, she was admitted to the Durand Hospital. The trunk and extremities were covered by a pronounced typical scarlet fever rash. The throat was very red, with a thin, grayish white exudate covering both tonsils and extending to the velum palati, from which no diphtheria bacilli could be cultivated, but yielding abundant colonies of hemolyzing streptococci on blood agar plates. The tongue was coated with prominent papillae. There were 25,300 leukocytes in the blood, of which 92 per cent. were polymorphonuclears, 5 per cent. large mononuclears and 3 per cent. small mononuclears. During the day the temperature ranged from 101 to 103.2 F., and the pulse from 110 to 116. Aside from the increased rapidity of the beat, nothing abnormal was found in the heart. October 4, the seventh day of illness, there was pain in the right shoulder and wrist joints, and in the left wrist. The patient seemed better, and the rash was fading. The temperature ranged from 101 to 103.4 F., and the pulse from 100 to 104; the pulse was regular and of good quality. At 9:45 p. m., the patient was made comfortable by her nurse, and said she felt much better and thought she could sleep. At 10 p. m., she was found dead. She had not moved from the position she occupied when last seen by her nurse, and the bed covers were undisturbed.

A necropsy was performed, October 5. The anatomic diagnosis was scarlet fever, fading exanthem, early desquamation about the neck; hyperemia and edema of the larynx and fauces; ulcerative and exudative tonsillitis; cervical adenitis; acute dilatation of the heart, with marked acute degenerative changes; petechiae of the myocardium; passive congestion and cloudy swelling of the liver, kidneys and spleen; splenic tumor, passive congestion and petechiae of the stomach and intestines; old healed pulmonary tuberculosis, with fibrous obliteration of both pleural cavities; chronic interstitial nephritis.

The heart weighed 425 gm., and was dilated, soft and flabby, filling the entire pericardical sac. The foramen ovale was closed. The endocardium was smooth and shiny; the valves were unchanged. The myocardium was red-yellow, and the cut surfaces showed many petechiae throughout. The wall of the left ventricle was 1 cm. across; the right, from 4 to 5 mm.; the interventricular septum, 1.2 cm. The aorta was unchanged save for a few scattered calcareous plaques. Histologic sections from the wall of the right and left ventricle, the interventricular septum, through the bundle region, and near the apex showed marked fragmentation of the muscle fibers, loss of striations, with faint staining nuclei, and congestion of the small blood vessels with hemorrhage. There was no round cell infiltration.

COMMENT

In each of these instances, death occurred very suddenly on the sixth and seventh day of sickness, and on the fourth and third day after the appearance of the eruption.

In the first case the patient suddenly became very cyanotic and pulseless, with gasping and infrequent respirations, and in spite of stimulants and artificial respiration died within five minutes after the first alarming symptoms appeared. In the second case, death occurred without the slightest warning.

Nothnagel[2] says that "sudden cessation of cardiac action preceded by no warning has been observed in scarlet fever very rarely, and not nearly so often as in diphtheria." Trousseau,[3] in his clinics, emphasizes that "of all the exanthematic fevers, scarlatina is the one in which it is least possible to foresee the danger; it presents complications usually unexpected, which the most experienced practitioner cannot foresee, even when they are imminent," and "there is no disease so disconcerting to the physician or in which his previsions so often prove erroneous."

Gouget and Deschaux[4] report a case of a youth, aged 19, who had dull heart tones, bigeminate pulse, and arrhythmia at times, almost from the beginning, the pulse varying from 70 to 142 a minute. This continued irrespective of treatment. The night of the third day the patient got out of bed. The next morning he felt weak but better, when suddenly he threw back his head and became cyanotic, the pupils dilated, and respiration became noisy, irregular and ceased in a few minutes. At postmortem the heart was hypertrophied, especially the left ventricle, which was rather firm, while the right was flabby and little hypertrophied. The myocardium was red-yellow, streaked with yellow. Around the base there was a fresh pericarditis; along the anterior coronary arteries, petechiae were seen. Histologically, there was a myocarditis with round cell infiltration, chiefly perivascular, and also pushing the fibers aside. Near the external surface, particularly, there was a fragmentation of muscle fibers, their nuclei staining faintly, and there was a loss of striations. The other organs were negative. Gouget and Deschaux attribute the cause of the sudden death to an acute myocarditis. They also state that "there usually are no pathologic findings that would account for death; sometmes the tissues are normal, and in others there are lesions which could not account for death, as the histologic findings bear out."

Weil and Mouriquand[5] report a case of sudden death in a girl, aged 18 months. One month before, she was supposed to have diphtheria, but all cultures were negative. On the thirteenth day following a typical onset of a moderately severe case of scarlet fever, she seemed much better; her temperature and pulse were normal. That evening she was found dead in bed. At necropsy the heart was soft, yellow-red, but otherwise unchanged. Histologic diagnosis was acute myocarditis, with perivascular and interstitial round cell infiltration, and also fragmentation of the muscle fibers. Weil and Mouriquand believe that death was due to acute myocarditis with no clinical manifestations; that myocarditis occurs more often in convalescent scarlet fever than one thinks, and that while they do not deny that in some instances sudden death may be due to lesions of the suprarenals, it is absolutely necessary to examine the myocardium, for often one finds there the cause without having to look elsewhere. There are also cases, such as those reported by Goldschmidt[6] and by Roger,[7] in which death came on from three to seven hours after the appearance of grave symptoms. Gouget and Deschaux[8] believe that these mark the transition between the classical cases of malignant scarlet fever

2. Nothnagel: Encyclopaedia of Practical Medicine, 1902, p. 561.
3. Trousseau, quoted by Gouget and Deschaux: Internat. Clin. **3**: 204, 1909.
4. Gouget and Deschaux: Presse méd. **19**: 17, 1911.
5. Weil and Mouriquand: Presse méd. **19**: 641, 1911.
6. Goldschmidt: Bull. et mém. Soc. méd. d. hôp. de Paris **22**: 521, 1905.
7. Roger, H.: Rev. de méd. **21**: 369, 1901.
8. Gouget and Deschaux: Internat. Clin. **3**: 204, 1909.

and those in which death occurs in an unforeseen and sudden manner.

Gouget and Deschaux, in their own cases and in those compiled by Duclos [9] and others from the literature, point out the striking similarity in their histories. "It is always on the fourth or fifth day that the symptoms appear, and in a very short space of time the patient passes from a relatively satisfactory state of health to one of utmost seriousness. The temperature rises abruptly, the pulse can no longer be counted, and in from two to four hours, perhaps a little longer, everything is over." In short, "it is the tableau of a case of malignant scarlet fever reduced to its final phase, and suddenly grafted on a case which up to that time followed normal evolution. Less commonly it may occur later when the disease is beginning to decline." In their cases in which postmortem examinations were made, they were unable to explain the cause of death.

CONCLUSIONS

1. The virus or toxins of scarlet fever seem to have an especially deleterious effect on the heart in some cases, as Welch and Schamberg [10] point out. In those reported by Gouget and Deschaux, by Weil and Mouriquand, and also in ours, direct action on the myocardium is apparent. Broadbent [11] is inclined to believe that it has its action on the heart ganglions. No evidence was found in our case to bear out this view.

2. Since grave myocardial lesions may not be apparent clinically, and since in many of these cases death has followed some slight physical exertion, it would seem that absolute rest in bed is indicated in all cases of scarlet fever, especially during the acute stages, and more particularly in those in which one may suspect myocardial lesions.

DIPHTHERIA PREVENTION AMONG CHILDREN OF PRESCHOOL AGE

IN THE BOROUGHS OF MANHATTAN AND THE BRONX IN NEW YORK *

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Statistics on diphtheria verify the clinical experience as regards the high morbidity and mortality from the disease in young children. From 80 to 85 per cent. of all cases of diphtheria and all deaths from the disease occur in children under the age of 5 years. This group, therefore, represents the most important part of the population that has to be protected against diphtheria, and the most suitable for immunization.

In proportion to its importance are the difficulties that have to be met and overcome. These young children are scattered in the individual homes, and cannot be reached as readily as schoolchildren in large groups. The parents have to be seen and convinced before they will consent to the immunization of their children. All this requires considerable effort and time on part of the health officer, the public health nurse, and others.

The diphtheria prevention work in the schools is a valuable preliminary step to any attempt to immunize the children of preschool age. Through the schools, the parents will soon learn to appreciate the value and the harmlessness of these newer measures of diphtheria prevention. Many homes can thus be reached in a short time. The consent blanks and other literature taken home by the children tell the parents all about the work. The prestige of the school is behind this work, and the parents have to take a definite action by either giving consent or refusing to do so. We found in our school work that the wholehearted cooperation of the principal and teachers was of greatest importance to obtain successful results in a school. In some of the schools we were thus able to obtain consent from fully 60 to 80 per cent. of the parents.

BABY HEALTH STATION

Important Official Notice

DIPHTHERIA PREVENTION

Department of Health City of New York

Protect your young children against Diphtheria! Next week the doctor will vaccinate against Diphtheria the children of the Baby Health Station and also all those who are too young to go to school. Be sure to ask the nurse about this wonderful opportunity as soon as you receive this card. She will give you all the information you need. Also tell your neighbors who have young children about it. These injections may save your children's lives!

This is a special opportunity which the Department of Health offers to you. Will you not take advantage of it?

The doctor will give the protective injections on.....

during the month of.....

Fig. 2.—Folded mailing card.

The campaign of last summer to reach the children of preschool age, therefore, was a logical sequence to the extensive work that was carried out in the public schools of New York City. More than 800,000 homes had been reached with the literature on diphtheria prevention. In the boroughs of Manhattan and the Bronx alone over 150,000 schoolchildren were given the Schick test. Those showing a positive reaction received the injections of toxin-antitoxin. An almost equal number were tested in Brooklyn and Queens. Repeated newspaper publicity had also been of some value. In most of the homes where there are children, the parents knew what modern diphtheria prevention meant. Many of them asked us where they could take their younger children to have them immunized against diphtheria.

The work among children of preschool age, including those between 6 months and 6 years of age, was started July 1, and carried out during the months of July and August and the first two weks of September. In Manhattan and the Bronx, the injections were given in all the baby health stations of the department of health, in five similar stations of the New York Diet Kitchen Association, and in many of the mothers and babies' playgrounds located during the summer in the play yards of the public schools.

CIRCULARIZATION OF THE HOMES

(*a*) The first step was to notify the parents that they now had the opportunity to have their children who were too young to go to school immunized against

9. Duclos: Rev. gén. de clin. et de therap. **9**: 33 (Part 2) 1895.
10. Welch and Schamberg: Acute Infectious Diseases, Philadelphia, 1905, p. 443.
11. Broadbent: Jahrb. f. Kinderh. **30**: 491, 1914.

* Read before the Section on Pediatrics of the New York Academy of Medicine, Nov. 9, 1922.

* This article is abbreviated in THE JOURNAL by the omission of several forms. The complete article will appear in the author's reprints.

* The diphtheria prevention work in New York City, which is under the general direction of Dr. William H. Park, is carried out by two different groups of workers. The boroughs of Manhattan and the Bronx are assigned to the supervision of the author, and those of Brooklyn, Queens and Richmond to Dr. C. M. Schroder. The methods used by the two groups are in most respects the same, but they differ in certain details because of local conditions or the opinions of the immediate supervisors.

diphtheria. A carefully worded circular emphasizing the dangers of diphtheria for young children was distributed through the schools just before the summer vacation. This circular was printed in English, Italian and Jewish, and gave a list of the baby health stations.

Of these circulars, 150,000 were distributed through the public schools of Manhattan and the Bronx. The cooperation of the principals and teachers was solicited in asking the children to take the circulars home to their

DEPARTMENT OF HEALTH—CITY OF NEW YORK

DIPHTHERIA VACCINATION CERTIFICATE

This is to certify that..... Age.....
residing at.....has received the three protective injections of toxin-antitoxin against DIPHTHERIA. The final DIPHTHERIA PROTECTION CERTIFICATE will be issued when the child is given a Schick test after admission to school and shows a negative Schick reaction.

ISSUED BY.....M.D.,
Medical Inspector.

ROYAL S. COPELAND, M.D.,
Commissioner.

DATE.....

Fig. 4.—Temporary diphtheria vaccination certificate.

parents and notify them on what days during the month the physician would give the injections at a neighboring baby health station. Fifty thousand additional circulars were distributed through the nurses at the baby health stations, and also through the nurses of the bureau of preventable diseases, the Henry Street Settlement, the Society for Improving the Condition of the Poor, the Charities Aid Organization and the American Red Cross. Ten thousand circulars were also distributed by private physicians among their patients.

(*b*) An important and effective method of reaching many parents was through a folded mailing card, which was sent to all those mothers whose babies had been registered at the baby health stations during 1920 and 1921, and in some instances also during 1918 and 1919.

Forty-five thousand of these cards, printed in English, Italian and Jewish, were sent out.

Five thousand cards and 10,000 circulars were posted in the hallways of tenement houses, windows of stores, and other available places.

(*c*) We were greatly hampered in our work by the fact that the injections of toxin-antitoxin had to be given in the afternoons, when the baby health stations are ordinarily closed, rather than in the mornings, when the parents come for milk and bring their children to be seen by the physician. This was necessary, however, to avoid overcrowding the stations in the mornings. We utilized the clinic in the morning by assigning to the station a nurse from our group, whose duty it was to speak to parents, notifying them when to come to the stations for the injections, and to distribute circulars and special tickets for each child.

(*d*) A baby health contest in the Bronx and gatherings of groups of parents at the schools also afforded an opportunity for propaganda work.

OUTLINE OF THE WORK

Organization of the Personnel.—In the group working in the boroughs of Manhattan and the Bronx, there were seven part-time physicians, four nurses, and three laboratory assistants. These were divided into seven teams, each team consisting of a physician and a nurse or a laboratory assistant. Four teams were assigned to the baby health stations, and three teams to the mothers and babies' playgrounds. The schedule was so arranged that each team was assigned to a different station during the six days of the week, returning to the stations on the same days during the entire month. In this way, the physicians came back to each station during four or five afternoons in one month.

A printed schedule of the baby health stations was distributed to all the nurses of the department and to the various organizations assisting in this campaign. This helped considerably in coordinating the work.

During the month of July, the injections were given in twenty-four baby health stations and fifteen playgrounds. A similar number of stations and playgrounds were visited during the month of August, the work in these stations being continued through the first two weeks in September.

In the mothers and babies' playgrounds, the preliminary propaganda work was done partly by the teachers in charge of the play yards, and partly by the physicians and nurses of the different teams. Since many of the parents usually left their younger children in charge of the older ones, it was necessary to send home consent blanks, which had to be signed by the parents before the injections could be given.

Toxin-Antitoxin Injections With or Without the Schick Test.—Each child was given the Schick test. The control test was omitted, as children under 5 or 6 years of age seldom show pseudoreactions.

Although each child received the Schick test, we did not guide ourselves by its results in giving the injections of toxin-antitoxin. The first injection was given at the same time as the Schick test, the second injection a week later and the third injection two weeks later. In giving the toxin-antitoxin injections to all children irrespective of the results of the Schick test, we wished to emphasize the advisability of immunizing all children between 6 months and 6 years of age with three injections of toxin-antitoxin.

It is always permissible and frequently advisable to omit the Schick test and give the injections of toxin-antitoxin to all children of preschool age for two important reasons: (1) the high percentage of positive Schick

DEPARTMENT OF HEALTH—CITY OF NEW YORK

DIPHTHERIA PROTECTION CERTIFICATE

This is to certify that..... Age.....
residing at.....has received protective injection against DIPHTHERIA and is protected against the disease, as shown by the Schick Test performed on.....192.. at Public School No.....
Issued by.....
Medical Officer.

ROYAL S. COPELAND, M.D.,
Commissioner.

DATE.....

Fig. 5.—Final Diphtheria protection certificate.

reactions among children under 6 years of age and the high death rate from diphtheria in this age group show how important it is to protect as promptly as possible all young children against diphtheria; and yet many physicians do not give the toxin-antitoxin injections because they hesitate to use the Schick test; (2) in all young children, only a very mild local and constitutional reaction is produced as a result of the injections.

After the injections of toxin-antitoxin, a child should not be pronounced immune to diphtheria until it gives a negative Schick reaction. This test can be made at any time after six months or more following the injections,

or when the child begins to go to school. Sometimes two or three additional injections of toxin-antitoxin are necessary before the child becomes immune to diphtheria.

It is important to remember that the technic of the test and the interpretation of the reactions are easily acquired and that every physician should be capable of utilizing accurately this reliable and excellent clinical test.

Local and Constitutional Reactions After Toxin-Antitoxin.—These reactions were very mild in the young children. In a few children of school age who were also injected with toxin-antitoxin, the reactions were more marked.

Diphtheria Vaccination Certificate.—To each child receiving the full series of three injections of toxin-antitoxin the temporary diphtheria vaccination certificate was issued. The final diphtheria protection certificate is never issued until a child gives a negative Schick reaction.

Records of the Schick Test and Toxin-Antitoxin Injections.—These records were kept for convenience on cards.

SUMMARY OF INJECTIONS

It is interesting to note that in the baby health stations nearly two thirds of the children were brought back for the full series of three injections of toxin-antitoxin. In the playgrounds, where the work was carried out under greater difficulties, a little more than one third received the full series of three injectious.

Diphtheria vaccination certificates were issued to those receiving the three injections of toxin-antitoxin.

It is interesting to note in Table 2 the high percentage of positive Schick reactions in the age group between 6 months and 6 years. The percentage of positive reactions diminished rapidly after the age of 7 years. The percentages in the groups from 7 to 14 years correspond closely with those noted in the schools located in the poorer and more congested sections of this city.

TABLE 1.—NUMBER OF CHILDREN GIVEN SCHICK TEST AND INJECTED WITH TOXIN-ANTITOXIN

Station	Total Number Receiving: 3 Injections of Toxin-Antitoxin	2 Injections of Toxin-Antitoxin	1 Injection of Toxin-Antitoxin	Schick Test Only	Total
Baby health stations	2,785	929	1,261	169	5,144
Mothers and Babies' playgrounds	576	250	498	212	1,536
Total	3,361	1,179	1,759	381	6,680

Frequent exposures and repeated mild infections with the Klebs-Loeffler bacillus are important factors in the development of natural immunity in growing children. The corresponding age groups among children of the more well-to-do, who are kept more segregated from other children, show a very much higher percentage of susceptible individuals. Such large percentages of nonimmunes are also found among children living in small communities and in rural sections, where frequent contact exposure is also less common.

RESULTS OF SCHICK TESTS BY FAMILIES

The testing of the children in the baby health stations afforded us an opportunity of studying the response of several children in the same family to the Schick test. The parents brought not only the younger children of preschool age but also the older ones for the test. A grouping of these families by the number of children and the type of Schick reactions gave interesting data.

Table 3 shows that in seventy-seven families all the children gave negative Schick reactions, and in 103 families all gave positive reactions. In 204 families, there were both positive and negative reactions in each family. By considering the age sequence of the children in each family, we found that in 152 families the reactions were in regular order, the younger children showing positive, the older ones negative reactions.

TABLE 2.—RESULTS OF SCHICK TEST IN BABY HEALTH STATIONS AND VACATION PLAYGROUNDS (MANHATTAN AND THE BRONX)

Age	Total	Schick Positive	Schick Negative	Schick Positive, per Cent.
From 6 to 7 months	53	30	23	56.6
From 7 to 8 months	41	26	15	63.4
From 8 to 9 months	62	52	10	83.8
From 9 to 10 months	58	54	4	93.1
From 10 to 11 months	61	53	8	87.0
From 11 to 12 months	34	31	3	91.1
From 1 to 3 years	1,727	1,438	289	83.2
From 4 to 6 years	1,328	779	549	58.6
From 7 to 10 years	903	330	573	36.5
From 11 to 14 years	235	53	182	22.5
Total	4,502	2,846	1,656	

In only fifty-two families did we find an irregular sequence, the older children giving positive and the younger ones negative Schick reactions. Out of a total of 384 families, therefore, in 332, or 86.4 per cent., the children gave all negative, all positive or regular mixed negative and positive reactions.

Table 4 gives a graphic presentation of the various types of Schick reactions in different families.

In one of our earliest publications [1] on this subject, we drew attention to the striking tendency toward similar Schick reactions, positive or negative, among the children of a family. When the two types of reactions were present in one family, it was the rule to find young children with positive, older ones with negative reactions. This does not apply to children under 6 months of age, who frequently show a temporary negative Schick reaction as a result of antitoxin passively transmitted through the placenta from mother to offspring.

The tendency to develop early a natural immunity was marked in certain families, in which the children gave a negative Schick reaction as soon as they reached 1 or 2 years of age. In other families, this tendency was delayed for a few years. In still other families, there was little or no tendency toward development of a natural immunity, as the children failed to give a negative reaction even when they reached the age of 15 or 16 years. When an older child gave a positive Schick reaction, the younger ones as a rule also gave positive reactions. It is important to remember this fact, as the presence of diphtheria in an older child generally indicates that the younger children in the same family are also susceptible. To wait for the result of the Schick test may not be advisable under such conditions, and the immediate administration of a prophylactic dose of antitoxin is indicated.

The tendency noted in some families for all the children to give a negative Schick reaction may be an indi-

1. Park, W. H.; Zingher, Abraham, and Serota, H. M.: The Schick Reaction and Its Practical Applications, Arch. Pediat. 31: 481, 1914.

cation that there has been repeated exposure to infection with the diphtheria bacillus as a result of the children living under the same conditions of environment. We have found, however, that the children of families living under very similar conditions gave positive reactions. While our previous results [2] in testing large numbers of public school children have shown us that exposure to infection with the diphtheria bacillus is a most important factor in the development of natural immunity, we must assume that a second factor also comes into play in the form of an inherited family tendency, as a result of which the tissue cells of certain individuals respond either readily and well or slowly and poorly to the same amount of antigenic impulse.

PRIVATE PHYSICIANS AND DIPHTHERIA IMMUNIZATION AMONG CHILDREN OF PRESCHOOL AGE

The important part that the general practitioner plays in the prevention of disease among the young children in his private practice indicates that the ultimate success of the work in diphtheria prevention will depend on the successful cooperation that the health officers can obtain from the family physician. He is the one who will have to be depended on to persuade the parents to have their children protected against diphtheria, just as they are having them protected now by vaccination against smallpox.

We felt that it would be an important phase of the campaign to enlist the aid of the medical profession in the city in the distribution of literature and in giving the injections of toxin-antitoxin to the young children in their private practice. A circular letter was sent to each of the 6,000 physicians in Manhattan and the Bronx, enclosing copies of the circular and the diphtheria vaccination certificate, and offering to send them a supply of these forms on request. A list of the department of health stations where the toxin-antitoxin could be obtained free of charge was also sent to each physician. More than 200 physicians requested the literature. It is hoped that many more will avail themselves of this opportunity to begin a form of prevention work among their patients which depends for its ultimate success so much on their efforts.

TABLE 3.—RESULTS OF SCHICK TEST BY FAMILIES (BABY HEALTH STATIONS AND VACATION PLAYGROUNDS IN MANHATTAN AND THE BRONX)

	Number of Families			
Family Consisting of	All Negative	All Positive	Regular Mixed, Negative and Positive	Irregular Mixed, Negative and Positive
3 children	54	88	101	24
4 children	19	7	29	18
5 children	3	7	20	6
6 children	1	1	1	3
7 children	..	..	1	1
Total	77	103	152	52
Grand total	332 (86.4%)			(13.6%)

COMMENT

The diphtheria prevention work that was carried out this summer in the baby health stations and in the mothers and babies' vacation playgrounds has shown the usual difficulties encountered in any attempt to reach the scattered children of preschool age. These very difficulties indicate the necessity for close cooperation on the part of the general practitioner in such a campaign. He is the one to whose advice the parents will listen most readily. When the parents are too poor to afford the services of a private physician, the injections should be given free of charge by physicians connected with the health department. When we consider the financial burden that sickness and death from a case of diphtheria place on the family and the community, we realize that the expense connected with the immunization with toxin-antitoxin is relatively small.

The results obtained with the Schick test this summer show that the children between 6 months and 6 years of age are very susceptible to diphtheria, even among those classes that live in the poorer and more congested sections of the city. This high degree of susceptibility indicates that the injections of toxin-antitoxin should be given either with or without the preliminary Schick test to all children in this age group.

TABLE 4.—THE SCHICK REACTION IN FAMILIES; TYPES OF FAMILY REACTIONS

	Ages of Children in One Family				
Type	6 Months	2 Years	5 Years	8 Years	12 Years
All positive	— or +	+	+	+	+
All negative	— or +	—	—	—	—
Regular mixed positive and negative:					
(a) Early natural immunity	— or +	+	—	—	—
(b) Late natural immunity	— or +	+	+	+	—
Irregular mixed positive and negative	— or +	+	—	—	+
Irregular mixed positive and negative	— or +	—	+	+	—

The immunity curve begins to rise fairly rapidly in this class of children after they have passed the seventh year. This does not hold true for the children of the more well-to-do and for those who live relatively isolated or in small communities, among whom we previously found a high percentage of susceptible individuals even up to adult age. Frequent exposure to infection with the diphtheria bacillus among the children of the poorer class who live in the larger cities in such congested neighborhoods most probably explains this interesting phenomenon.

Thorough propaganda work by the health department is an important feature in reaching the preschool age groups. It could be started at birth, when the birth certificates are sent to the parents, by enclosing a circular on the new methods of diphtheria prevention. This circular should draw the attention of the parents to the special dangers from diphtheria for all children as soon as they reach their first year. The parents should be urged to take young children to their private physician so that he can immunize them against diphtheria.

The problem of diphtheria control would be much nearer solution if an ordinance could be passed making it compulsory that children on entering school should be given the Schick test and, if they give a positive reaction, immunized with toxin-antitoxin. If this seemed wise to the health department and the board of education, and could be brought about, no doubt most of the children would be Schick tested and immunized against diphtheria long before the time for entering school. This has proved true in the case of smallpox vaccination, and will probably also be true in the case of diphtheria prevention.

Such compulsory legislation would be most desirable, but its passage will depend on the enlightenment

2. Zingher, Abraham: Diphtheria Prevention Work in the Public Schools of New York City, J. A. M. A. 77: 835-841 (Sept. 10) 1921.

of the community with respect to disease prevention. It is here that the health officer and the health department can accomplish much good by giving expression to the crystallized opinion of the medical profession in the community. These two outstanding facts should be emphasized: The morbidity and mortality from diphtheria were on the increase throughout the country until very recently, and we are now able to avail ourselves of measures that will ultimately stamp out this disease.

CONCLUSIONS

1. The active immunization with toxin-antitoxin of all children of preschool age (from 6 months to 6 years) is of fundamental importance in any general campaign of diphtheria prevention and control.

2. To reach these young children, the health officer can utilize, in larger cities, the baby health stations, day nurseries, mothers and babies' playgrounds, infant asylums, clinics for children, and similar agencies.

3. It is of even greater importance to have private physicians take up this work among the young children in their private practice.

4. Preliminary work in the schools will help by spreading in the homes the knowledge of these newer methods of diphtheria prevention.

5. The high percentage of positive Schick reactions among children of preschool age indicates, under many conditions, the advisability of simplifying the procedure of immunization by omitting the preliminary Schick test in this group and giving the toxin-antitoxin injections to all children between 6 months and 6 years of age. These children should not be pronounced immune to diphtheria after the injections of toxin-antitoxin until they show a negative Schick reaction. This test might be carried out conveniently by the school physician when the children begin to go to school.

6. The injections of toxin-antitoxin produce very little local or constitutional disturbance in young children.

AN IMPROVED PROCEDURE FOR THE STAINING OF ACID-FAST ORGANISMS IN TISSUE*

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Investigators familiar with the demonstration of the bacilli of tuberculosis in tissue are aware of the difficulties attending the customary procedure of section staining, particularly in retaining the counterstain as the tissue is passed through the various dehydrating preparations, or resulting from the failure thoroughly to dehydrate the stained tissue by omitting those dehydrating solutions which attack the counterstain. Satisfactory results are even more uncertain in frozen sections than in sections embedded in paraffin or celloidin. The method described here affords a rapid and simple technic for demonstration of *Bacillus leprae* and *Bacillus tuberculosis* in tissues. Excellent results are also obtained in paraffin sections.

* From the Section on Surgical Pathology.

TECHNIC

Fresh tissue, having been hardened in a 10 per cent. dilution of liquor formaldehydi for at least fifteen hours, is frozen and sectioned. The thinner the section, the more satisfactory is the stain, and the finding of the organism is likewise facilitated. The cut sections are floated in distilled water and mounted on clean slides by means of a small glass elevator. They are then dehydrated by being flooded with 95 per cent. alcohol, after which they are fixed to the slide with celloidin. The superfluous celloidin adhering to the slide is wiped away, and slides are placed in a glass of distilled water. They are now ready for staining. (Care must be taken that the celloidin solution is free from water; otherwise, the section will not adhere to the slide.)

The old, orthodox teaching of heating or steaming in carbolfuchsin has been abandoned. Apparently, there is nothing gained by working with a hot solution, cold carbolfuchsin solution serving just as well, as was brought out by Keilty.[1]

STAINING PROCESS

1. The slide is placed in a vessel containing cold carbolfuchsin, and stained for from five to ten minutes.

2. It is washed in tap water and decolorized for from one to two minutes with 25 per cent. hydrochloric acid (aqueous solution). If some color returns after washing in tap water, the process of decolorizing is repeated, and the slide is washed again in tap water. It is then blotted between filter papers.

3. Counterstaining is done with Loeffler's methylene blue for from one to two minutes. The choice of counterstain is an individual matter. Those in general use, such as malachite green, Bismarck brown, picric acid and methylene blue, give good results.

4. The excess stain is washed off with distilled water, and the slide is blotted between filter papers.

5. Several drops of pure anilin are quickly dropped on. The color of the section should be watched. When the desired blue is obtained, the slide is immersed in a clearing mixture of one part of anilin and two parts of xylene. The slide is lifted out of the anilin mixture from time to time, and the degree of clearing and also the intensity of the blue are observed. Ordinarily, the slide is not left in the mixture longer than three minutes, but this depends on the intensity of the blue desired and the thickness of the section. The anilin and xylene dissolve the counterstain slowly, so that care must be taken not to leave the slide in the mixture too long. When the desired tint of blue appears, the section is transferred to pure xylene, in which it remains until completely cleared. It is then mounted in balsam in the usual manner.

Pure anilin dissolves the dye quite readily, as well as clears it, and care is necessary in removing the excess counterstain not to continue the process too long. With a little practice, the whole section can be run through in from ten to fifteen minutes.

1. Keilty, R. A.: Hydrochloric Acid as a Decolorizing Agent for the Tubercle Bacillus, J. A. M. A. **66**: 1619-1620 (May 20) 1916.

Mountains of Carbon.—The carbonic acid gas exhaled by a man in twenty-four hours is estimated at about 450 liters, which would represent 240 gm. of burnt carbon and 450 liters of oxygen taken from the air to effect this combustion. At this rate the carbonic acid gas produced in a year by the whole human family would amount to about 160 billion cubic meters, which represents 86,270,000 kg. of burnt carbon. Piled in one heap, this carbon would make a mountain a league around at its base and from 400 to 500 meters high. Such is the quality of fuel required for the maintenance of man's natural heat. All of us together eat carbon to this extent, and in the course of a year we breathe it out, a breath at a time, in the form of carbonic acid gas. Then we start on the consumption of another pile of the same size. How many mountains of carbon, then since the world began, must mankind have breathed out into the atmosphere.—Fabre: The Wonder Book of Chemistry.

VENTRICULOSCOPY AND INTRAVENTRICULAR PHOTOGRAPHY IN INTERNAL HYDROCEPHALUS

REPORT OF CASE *

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In an attempt to find a means of relief in cases of hydrocephalus in children, some interesting observations have been recorded relative to the appearance of the functioning ventricle in the living subject.

With the object of establishing an outlet through the corpus callosum for the relief of the acute internal hydrocephalus presented in the case reported below, an approach through the dilated ventricle with an operating cystoscope was suggested. An opening through the thinned cortex in a silent area of the brain was planned, as being a far safer procedure than the more formidable midline approach between the hemispheres.[1]

Fig. 1.—Appearance of patient on admission, showing marked enlargement of the head and expanse of the forehead.

REPORT OF CASE

A baby boy, aged 10 months, Italian, was brought to the neurosurgical clinic, Nov. 5, 1922, by his mother, who requested that something be done to check the progressive growth of the baby's head. The child's birth had been difficult, labor having continued for three days before the infant was finally delivered by means of forceps. The mother had been torn at the time of delivery, and there was a slight mark on the infant's forehead that was said to have been caused by the application of forceps. The mother had been married for two years. There was a history of a miscarriage at the end of the third month. Both father and mother were in excellent health. The blood Wassermann reaction on each was negative.

Four months after the child's birth, the mother had first noted that his head was larger than normal, and, for the last six months, it had been gradually increasing in size (Figs. 1, 2 and 3).

The head measured 64 cm. in circumference, and 42 cm. from the glabella to the inion. The forehead was massive, compared with the size of the body. The fontanels were wide and fluctuating. The child weighed 20 pounds, 8 ounces (9,298.6 gm.). The face was small. There was no ocular palsy, and no paralysis of the extremities. The general physical condition was excellent. The blood and spinal Wassermann reaction were negative. The child had never been sick. The appetite had been good, and the child had taken all of its feedings regularly. There had been nothing to suggest meningitis.

November 9, under light ether anesthesia, a small trephine opening was made through the skull, on the right side, in the postparietal region. Through a small dural slit, a Cotton cannula was passed into the ventricle, which proved to be only 1 cm. below the cortex. Clear fluid escaped under considerable pressure. The cannula was removed, and a small No. 12 cystoscope was inserted, affording a clear view of the ventricular walls. Sketches were made at this time, and the structures were noted with especial reference to the medial wall, which appeared to be quite free from large vessels near the colloidal pathways (Figs. 4 and 5).

Fig. 2. — Appearance of patient after third ventriculoscopy, which resulted in his being somewhat brighter, following relief of pressure.

Fig. 3.—The enlarged head when viewed from above eclipses the entire body in size. Two small collodion dressings mark the two areas of approach.

The wound was closed after enough fluid had been allowed to escape to relieve the increased pressure. There was no cortical or ventricular hemorrhage. The dura was closely closed by a button-hole stitch, and the skin edges were closely approximated. The child was returned to the ward in good condition, and, after a slight reaction, returned to the normal in a few days.

Fig. 4.—Peculiar appearance of the veins that stand out from the ventricular walls.

This procedure disclosed several things of importance:

1. Ventriculoscopy can be performed with little risk and with slight reaction.

2. A satisfactory view of the lateral ventricle can be obtained and the proposed field of future operation carefully inspected.

* From the Neuro-Surgical Clinic of Dr. Charles H. Frazier, University Hospital.

1. This paper is a preliminary report of work being done on the problem of internal hydrocephalus. The condition is by no means rare. It is a frequent sequel of meningitis, and possibly of trauma sustained at birth. Schuchard reports one case in every 743 births, as a complication of pregnancy. Lachapelle and Duges found it once in every 2,903 births, and Merriman once in every 900. In September, 1921, various means and methods of approach were outlined, and experimental work in the laboratory was undertaken to determine the technic for the midline approach between the hemispheres. The results of this work are rapidly nearing completion and will be presented in the near future. The use of ventriculoscopy for inspection as a means of determining the pathologic condition existing in the ventricles and the employment of the photographic cystoscope to record the observation so made, was proposed in September, 1921. Since the inception of this problem, Dandy (Bull. Johns Hopkins Hosp. **33**: 189 [May] 1922) records a case in which he has employed ventriculoscopy but not photography.

3. Some interesting structures may be noted in their normal relationship.

4. Direct ventriculoscopy is of diagnostic value in localizing those subcortical lesions which may cause ventricular distortions and which are often difficult to localize, and for tumors within the lateral ventricles.

Fig. 5.—Appearance of posterior horn of the lateral ventricle, viewed from above. The choroid lying in the foreground has a rich reddish brown appearance, similar to that of a thick velvet rug.

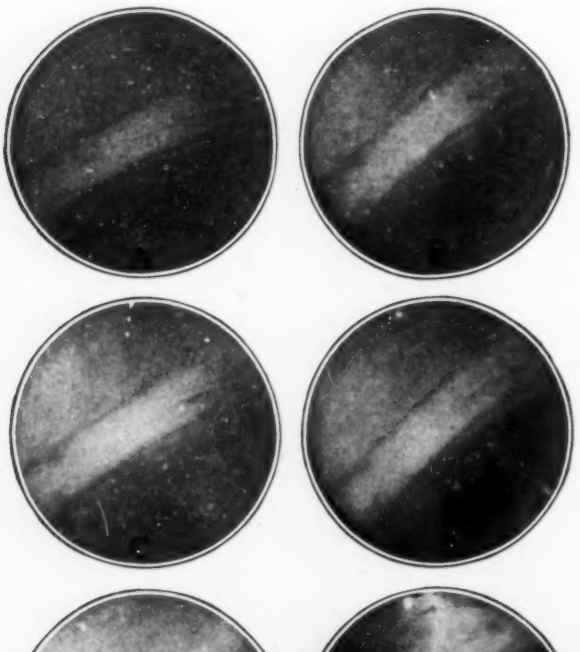

Fig. 6.—Exposures made within the ventricle, showing the choroid as a dark mass along the floor, with the light ventricular wall above. The parallel distribution of the veins is of interest: *A*, exposure for ninety seconds; *B*, exposure for seventy-five seconds; *C*, exposure for sixty seconds; *D*, exposure for forty-five seconds; *E*, exposure for thirty seconds; *F*, appearance of some of the veins on the surface of the septum lucidum, exposure for forty seconds.

Two weeks later, a second exploration was performed, this time on the left side, the posterior horn of the ventricle being entered from the parietal occipital lobe. A photographic cystoscope was used on this occasion, and six exposures were made of structures seen within the ventricle (Fig. 6).

As these photographs were the first of their kind, to our knowledge, the problem of time and the duration of the exposure had to be determined. The presence of the ventricular fluid and the fact that the head was slightly moved with each respiration of the patient also added difficulties to the procedure. Figure 6 illustrates the same view under exposures varying from one and one-half minutes to thirty seconds. When the cystoscope was inserted, a clear view of the ventricles was obtained, and the instrument was focused on an area that showed the choroid plexus and a series of small veins running off to the walls of the posterior horn. This field was chosen because it exhibited the contrast between the dark choroid and the pearly white surface of the ventricular wall. The cystoscope was clamped in place by a fixture attached to the table, and the exposures were made in rapid succession.

After the wound had been carefully closed the patient was returned to the ward in excellent condition. The child showed only a slight reaction following the second operation. This was probably due to the fact that only a small amount of cerebrospinal fluid escaped during the whole operation, the pressure having been relieved before. The reaction was not more than would be expected in a 10 months old child following any ether anesthesia.

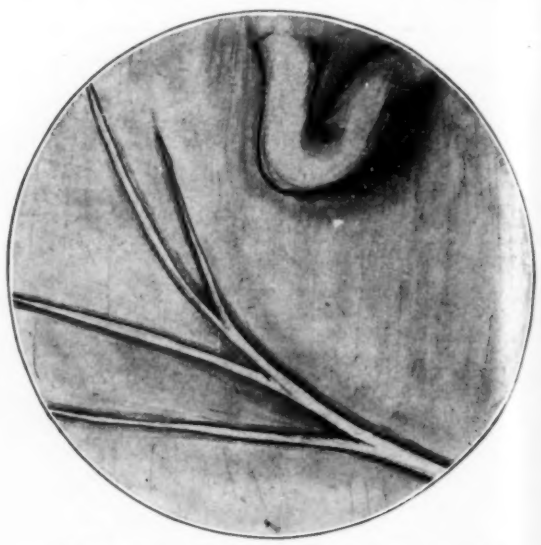

Fig. 7.—Peculiar vein emerging from the lateral wall and passing out again toward the cortical surface.

One week later, the child was again operated on, this time with the object of using an operating cystoscope and creating a permanent fistula through the corpus callosum to permit escape of the ventricular fluid into the subarachnoid space. A "high light" cystoscope was first used, and an entry made through the former opening into the posterior horn so as to familiarize the operator with the field of operation. Two interesting sketches (Figs. 7 and 8) were made at this time. It was found that the instrument which was to be used for cutting through the corpus callosum was defective, so the attempt had to be abandoned. The child was returned to the ward in excellent condition, and had very little reaction following the operation. A favorable opportunity is being awaited for the completion of the final stage of this operation.

CONCLUSIONS

1. Intraventricular photography and ventriculoscopy are possible in the presence of dilated ventricles.

2. Little or no reaction follows such procedure when properly conducted.

3. The diagnostic value of direct inspection of the ventricular cavities may prove of considerable impor-

tance in determining the location and the extent of growth of subcortical lesions causing deformities of the ventricles.

4. A satisfactory approach with regard to area and the extent of opening desired may be made through a

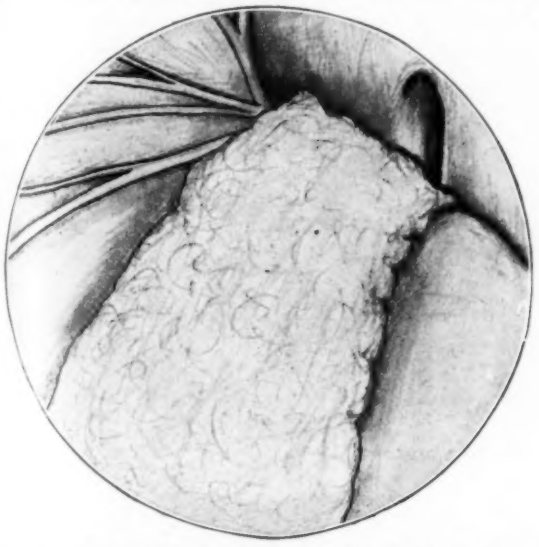

Fig. 8.—Lateral ventricle viewed from behind, showing a large portion of choroid in the foreground, and, in the anterior, inner wall, the enlarged and comma-shaped foramen of Monro, connecting the two anterior horns.

dilated ventricle in order to permit callosal puncture under direct observation.

5. Photography for the purpose of reproducing the appearance of structures or lesions within the ventricles requires at least forty seconds exposure.

A METHOD FOR THE CONCENTRATION OF CELLS AND BACTERIA IN PROSTATIC SECRETION *

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In the routine examination of prostatic secretion for the presence or absence of bacteria, and particularly gonococci, it is of the greatest importance to examine the cytoplasm of large numbers of pus cells. The small amount of pus that may be present is often so diluted with prostatic secretion that direct smears of the material are so thin as to make the finding of any number of pus cells a difficult task. The thicker parts of films dry slowly with consequent shrinking of the cytoplasm to a mere band surrounding the nucleus, within which it is almost impossible to recognize the morphologic appearance of organisms that may be present. The normal fluid itself also stains, making the examination of very thick areas impossible. After many attempts to devise a practical method of concentration of the cellular elements in prostatic secretion, the technic here described, which consists essentially of the use of proper size centrifuge tubes, has been found very satisfactory. This method has been in use for some time and has seemed to fill all requirements.

TECHNIC

A length of glass tubing of about one-fourth inch (5 mm.) outside diameter is moistened and wiped dry by a cotton plug pushed through it. It is then cut into lengths of 4 or 5 inches, and the ends are held in the flame, to round the sharp edges. A half inch of the middle is heated while the tube is being rotated in the flame of a small Bunsen burner until it is very pliable. The tube is removed from the flame and pulled into a large-lumen capillary about 5 inches long by slow traction on both ends. It is held taut for a moment until the glass chills. The glass is nicked lightly at *a* and *b*, as shown in Figure 1. (A very small file is used, or a glass cutter made from an old pocket knife by heating the blade to cherry-red and tempering by plunging in cold water. It is sharpened on a coarse grained emory wheel.)

The patient is instructed to wash the glans with soap and water, dry thoroughly, and to empty the bladder. Prostatic massage is then carried out in the usual manner, the fluid being collected as expelled into a medicine glass or small beaker. The short end of the glass tubing is now broken off and fitted with a good rubber bulb (Wright's red rubber bulbs as supplied by laboratory dealers). With the thumb resting partly on the glass tubing as shown at 2 in Figure 1, by rotating this member slightly, just enough vacuum is produced to take up several drops of secretion. With a little practice one soon learns the trick of allowing just sufficient suction to take up the desired quantity of fluid to fill the pipet, with the suction from the bulb diminishing to nil as the pipet fills. A small drop of the fluid for a control is squeezed out on the left hand end of a slide (5, Fig. 1) and spread out with the tip of the pipet. Pressure is now released and the fluid runs up, leaving the tip of the pipet empty so that it may be sealed, without spluttering, by holding it against the side of a Bunsen flame. The tip is removed from the flame, and the bulb is gently squeezed to see whether the tip is well sealed.

The bulb is removed and the tube is dropped in a centrifuge shield which has a good rubber plug in the bottom. It is cen-

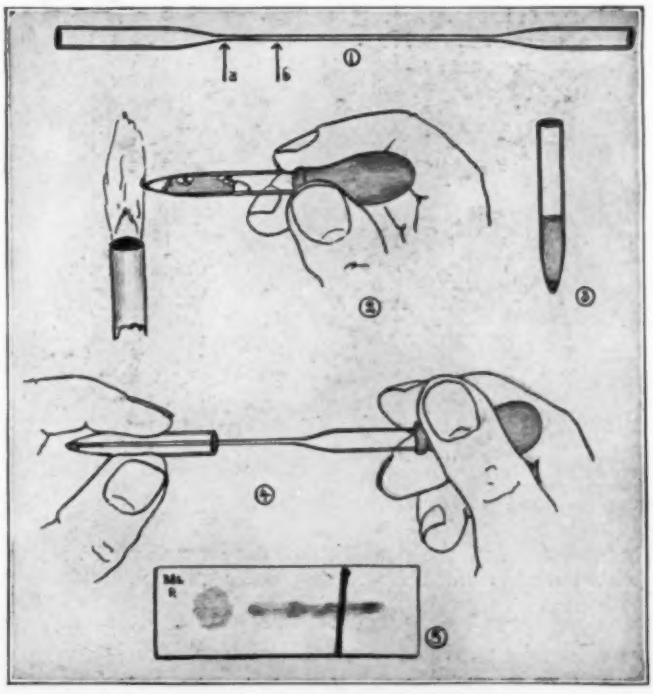

Fig. 1.—Details of technic.

trifuged at 1,500 revolutions a minute (with the usual radius from the spindle) for about one minute.

The centrifugal force exerted on a half inch layer swung at this speed and distance from the motor shaft is sufficient to throw down all cells and most of the free bacteria from the most viscid secretions encountered (3, Fig. 1). Care must be taken that the point *a* at which the tube was broken shall be just at the termination of the taper. With too narrow a point, a plug of mucus may adhere and keep the cells

* From the Laboratory of Clinical Medicine, Tulane University School of Medicine.

from packing at the bottom. Slow centrifuging is not entirely compensated for by a longer time. The hand centrifuge cannot be successfully used for this purpose.

The bulb is now attached to the capillary pipet. The supernatant fluid is pipetted off and discarded. The sediment is taken up (4, Fig. 1) and transferred to the middle of the slide and spread out in a long undulating wave of thick and thin places by means of the end of the pipet (5, Fig. 1).

The smear dries quickly. It is fixed with gentle heat. A mark is struck across one end of the concentrated smear with a grease pencil. The short end is stained with carbolfuchsin *"on and off."* It is washed and counterstained with Loffler's methylene blue from twenty to thirty seconds, and dried. A field of proper thickness is selected with a low dry lens, and examined with an oil immersion lens. When bacteria are found and their morphology and cell relationship have been determined, the remainder of the smear may be stained with Gram's method for further differentiation.

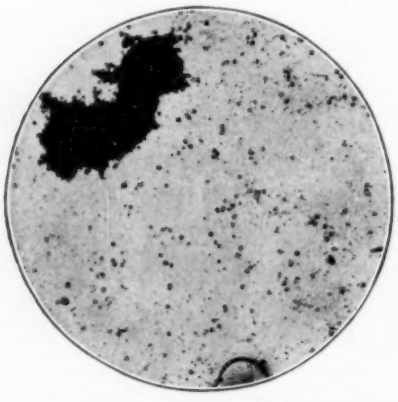

Fig. 2.—Plain prostatic fluid from posterior urethritis two weeks after cessation of the usual course of treatment; low dry lens.

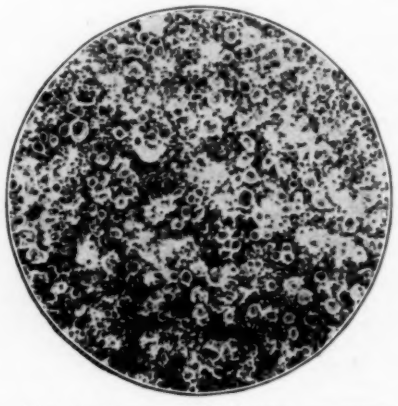

Fig. 3.—The same fluid after concentration; low dry lens.

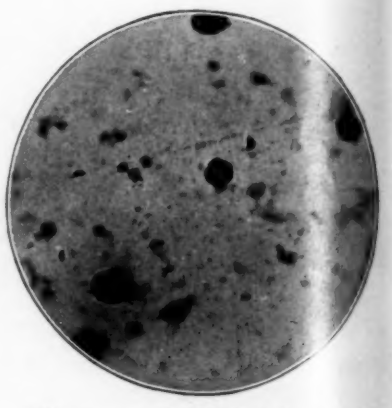

Fig. 4.—A typical field of the unconcentrated fluid under the oil immersion lens.

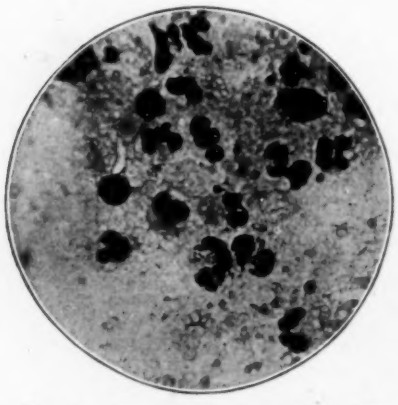

Fig. 5.—Concentrated preparation under oil immersion lens; to be noted are the distinct cytoplasm and nuclei of pus cells and the morphology of intracellular organisms.

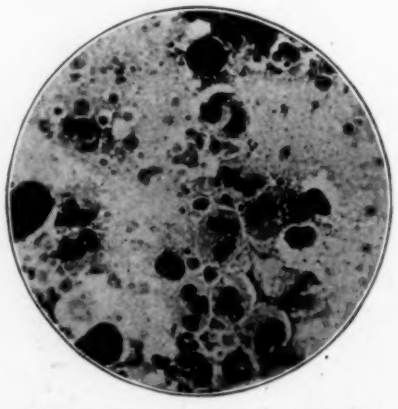

Fig. 6.—Other concentrated preparations; extracellular forms.

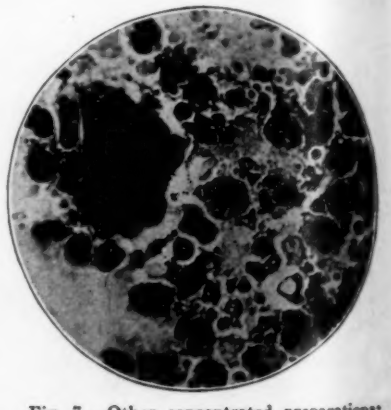

Fig. 7.—Other concentrated preparations; extracellular forms.

COMMENT

While just a little more technical ability is required here than in centrifuging urine, I am convinced that the facility and certainty with which the presence or absence of bacteria may be determined will place the microscopy of prostatic secretions on a parallel plane with the indispensable urethral smear. The description as given above seems rather tedious and much longer than it really is, but the success of any method lies in the observance of the small details.

Gonococci disintegrate very quickly. Prostatic secretion should never be allowed to stand many minutes before smears are made.

PNEUMOPERITONEUM AS AN AID IN THE DIAGNOSIS OF SUBDIAPHRAGMATIC CONDITIONS *

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ST. LOUIS

Since the advent of pneumoperitoneum, or air inserted into the abdominal cavity, as an aid in roentgen-ray diagnosis, much has been done to simplify the technic, and a great deal of investigation has been carried out to determine the full range of possibilities of this method.

Early in our experience with pneumoperitoneum, it was pointed out that this method should prove of great avail in the diagnosis of subdiaphragmatic lesions. The full value of the method was not appreciated, however, until opportunity was afforded for its practical application. Pneumoperitoneum has been of such great aid to us on several occasions, in clearing up doubtful diagnoses, that a brief consideration of its use in these lesions seems advisable. While its application in subdiaphragmatic conditions is not as wide as in some of the other regions of the abdomen, because of the limited range of subdiaphragmatic lesions, the information that it gives is occasionally of such value as to be decisive.

* Read before the Tulsa County Medical Society, Tulsa, Okla., April 26, 1922.

We have found the method of so much value in examination of acute infectious involvement of the subphrenic space that it seems advisable to call attention to this special phase of pneumoperitoneum work. Very little air is necessary in the examination of this region, and, if inflation is carried on with the patient in a recumbent position under the fluoroscope, any involvement of

Fig. 1.—Pneumoperitoneum in determining the involvement or freedom of the subdiaphragmatic space in suspected acute infections of this region, as an extension from the pleural cavity or otherwise. In this instance, the subphrenic space is free from involvement, the infectious process being confined to the chest.

this space can be at once detected, and the inflation discontinued. If the procedure is carried out in this fashion, there need be little fear of breaking any existing adhesion walling off an infectious process, no matter how delicate or recently formed. Information gained in this manner, either establishing the presence of a subdiaphragmatic abscess or excluding its possibility, is of the utmost value in the prognosis and treatment of the condition. This is especially true since the accepted method of surgical procedure for drainage of such abscesses is very extensive and necessarily involves vital structures. A case in point, illustrated by Figure 1, may be of interest:

A young man was admitted to the hospital with chills, high temperature and pain in the back. Physical examination revealed a perinephritic abscess, which was incised and drained. The temperature fell to normal, and the patient felt quite well. Drainage continued to decrease until, at the end of the seventh day, little if any was present. On the seventh day, however, the temperature again rose suddenly, and there were chills and profuse perspiration. Both physical and roentgenographic examinations revealed a moderate collection of pleural fluid, and there was immobilization of the diaphragm on the affected side. Pus was aspirated from the chest. At this time, hiccup commenced, persisting for several days. This, with high temperature and pain in the abdomen, suggested possible involvement of the subdiaphragmatic space. Examination by pneumoperitoneum revealed that the subdiaphragmatic space was not involved, and simple thoracotomy resulted in cure. Pneumoperitoneum disclosed no definite connection between the perinephritic abscess and the effusion in the chest.

The information gained by the surgeon in this instance, prior to operation, guided him in the surgical procedure and enabled him to perform a much less formidable operation than might otherwise have been the case.

In a similar instance, illustrated by Figure 2, an unsuspected inflammatory process was discovered in the subdiaphragmatic region. Pneumoperitoneum was undertaken for an entirely different lesion, and the subdiaphragmatic condition was unsuspected. At least six similar cases have occurred in which pneumoperitoneum was the decisive factor in the diagnosis.

Other conditions which occur in this region and in which pneumoperitoneum is occasionally of decisive aid are cardiospasm of the lower end of the esophagus, which must be differentiated from an organic lesion in this region; adhesions of the viscera to the diaphragm, and hernia of the hollow viscera through the diaphragm. The diagnosis of cardiospasm by the aid of pneumoperitoneum has been previously referred to by Iglauer,[1] and its aid in this respect is undoubtedly of great benefit in certain cases. When cardiospasm alone exists, the esophageal constriction occurs at the diaphragm, and the regular dilated sac appears above. There is no evidence of involvement of the region between the diaphragm and the cardiac orifice of the stomach, a condition clearly shown by this method, and

Fig. 2.—Beginning involvement of the subdiaphragmatic space on the right side by an infectious process during a peritoneum examination for another purpose. The subdiaphragmatic area on the right is in contrast with the clear, uninvolved area on the left.

confirming an observation previously made by Chevalier Jackson[2] that cardiospasm is due to the "pinchcock action of the diaphragm." When a carcinomatous

1. Iglauer, Samuel: Pneumoperitoneum as an Aid in the Diagnosis of Cardiospasm, New York M. J. **115**: 745 (June) 1921.
2. Jackson, Chevalier: Diaphragmatic "Pinchcock" in So-Called Cardiospasm, Laryngoscope **32**: 139-142 (Feb.) 1922.

involvement is present, a definite tumor mass can be seen. Barium meal examination reveals the presence of an irregularity and constriction of the esophagus, but does not show the extent of the pathologic growth. On several occasions, complete adhesion of the liver or spleen to the diaphragm has been encountered. Dense adhesions of the spleen necessarily preclude operative removal, and pneumoperitoneum should therefore be performed before any attempt at splenectomy.

The diagnosis of diaphragmatic hernia of the hollow viscera should be readily confirmed by this method.

A SKIN CANCER FOLLOWING EXPOSURE TO RADIUM *

WARD J. MacNEAL, PH.D., M.D.
AND
GEORGE S. WILLIS, M.D.
NEW YORK

The patient, G. S. W.,[1] who was born, Oct. 12, 1876, had attained the age of 46 years in 1922. His father, a physician, died in 1898 at the age of 64, from prostatic hypertrophy complicated by a mitral regurgitation and nephritis. His mother died in 1918 at the age of 70 years, from angina pectoris. The patient is married and has one daughter, aged 21.

The patient has practiced medicine since 1899, and he first began working with roentgen rays in 1905, employing a Wagner static machine with attachment for fluoroscopy. He habitually used his left hand as a test object. In 1909 he became acquainted with Dr. Walter Dodd, and for several summers he worked with Dr. Dodd in the Massachusetts General Hospital. He was, therefore, fully cognizant of the danger of roentgen-ray burns because of Dr. Dodd's experience, the latter having undergone no less than forty-six surgical operations before he eventually succumbed to the sequelae of roentgen-ray burns. During 1911 and 1912 he used roentgen rays daily with the fluoroscope for examination of the stomach. In this work the palms of the hands were exposed to the rays, but always with lead glove protection. Roentgen-ray work was continued on a small scale up to 1915, and since 1917 the patient has not employed roentgen rays at all.

His radium work began in 1912 with the use of radioactive water. In 1913 and 1914 he began to handle radium bromid, radium sulphate and mesothorium in glass tubes, having at his disposal about 50 mg. in all. These preparations were handled daily and very freely without protection. In 1915, much larger amounts were obtained, and he employed about 200 mg. daily, sometimes more. He habitually picked up the glass tubes to place them in metal boxes before applying the radium to the patient. In January, 1919, he obtained 365 mg. of radium in one glass tube. This he handled personally with but little precaution, from three to five times a day, in addition to smaller units in other tubes. The tubes were seized between the thumb and finger tips. This personal handling of the radium continued until 1920. Since June, 1920, he has handled radium very little, and then only with forceps. He is right handed.

The patient observed a curious numbness in the ends of all his fingers late in the year 1918, while continuing his radium work in the army. Along with this he noted a weakness of the left arm, so that he was compelled to give up boxing, a favorite exercise. Sometimes he could not even lift a drinking glass with his left hand. This numbness has persisted up to the present time. In July, 1919, he was discharged from the Army Medical Corps and came to the New York Post-Graduate Medical School and Hospital, where he has continued his radium work. At about this time an acquaintance called his attention to the roughness of his hands, to which he had previously paid very little attention. In the following winter, about January, 1920, more serious troubles began, and ever since the hands have been a constant care. The skin became tender and sore. There was a burning sensation, sometimes an ache and often a neuralgic pain. The skin has remained rough and harsh, and fissures have been almost constantly present. Bathing the hands in hot soda solution, nightly dressing with oil and occasional treatment by exposure to the sun's rays have been a regular part of his life since early in 1920.

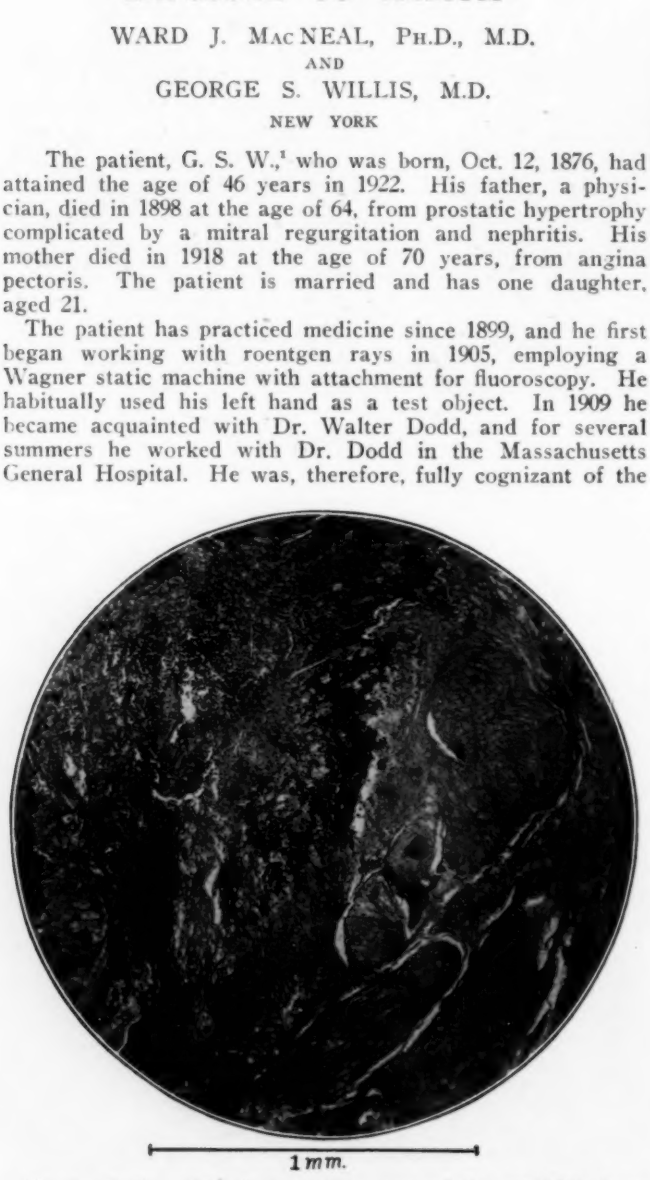


Fig. 1.—Section of the first specimen, removed Oct. 28, 1922: irregular whorls of squamous epithelium, largely necrotic; marked inflammatory infiltration.

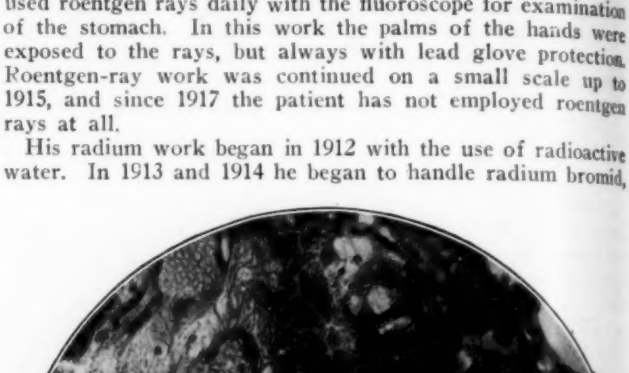


Fig. 2.—Second specimen, removed November 2: portion of vascular granulation tissues containing irregular nests of atypical epithelial cells in close relation to thin-walled blood vessels; near the center, a large cell in mitosis.

* Read before the New York Pathological Society, Jan. 10, 1923.
* From the Department of Pathology and Bacteriology and the Radium Division of the Department of Surgery, New York Post-Graduate Medical School and Hospital.
1. Dr. George S. Willis, one of the authors of this report.

About April 1, 1921, two very troublesome fissures appeared, one on the left thumb and the other on the middle finger of the left hand. At that time the hands were bathed in 5 per cent. phenol (carbolic acid) solution, and the fissures were then treated with solutions of brilliant green and gentian violet for one day. At the end of the day there was considerable redundant granulation tissue which was extremely sensitive. The next day the pain in these fissures was agonizing. Orthoform ointment was applied. At a consultation, possible malignancy was considered, but a diagnosis of infectious granuloma was made. April 10, a culture revealed numerous hemolytic streptococci in the lesions. The patient was confined to bed for three weeks, and suffered indescribable pain. The lesions were treated by exposure to sunlight, to red light and by bathing with iodin lotion. They healed in July. After that hydrous wool fat (lanolin) was applied every night.

Early in January, 1922, daily massage treatment was begun, and was continued for about two months. Later in the month a fissure appeared through the middle of a hyperkeratosis on the ball of the right thumb. From January to June this fissure remained open continuously, and it was protected with adhesive plaster or by a bandage. Various ointments and lotions were tried. Phenol seemed to afford most relief.

In July, a fissure appeared on the middle finger of the left hand at the site of the earlier serious lesion. This was exposed to 7.5 mg. of radium in a platinum-iridium needle for twenty minutes, and it healed about August 1. At this time he applied a similar 7.5 mg. needle of radium to the old fissure in the right thumb for twenty minutes. This was not so successful, and the fissure persisted unhealed. About August 20, this lesion suddenly became much more painful, keeping him awake at night using a bath of phenol every hour. The fissure rmained the same size, but the surrounding tissue became more prominent. The patient went to the seashore, September 1, where he soaked his hands in the sea water all the forenoon and exposed them, especially the sore thumb, to direct sunlight all the afternoon. At night he put on a dressing wet with a solution of sodium hypochlorite (hyclorite), which seemed to relieve the burning. This was continued for the first two weeks of September, during which time the lesion became transformed to a flat ulcer about 10 mm. square, much larger than before and just about as painful.

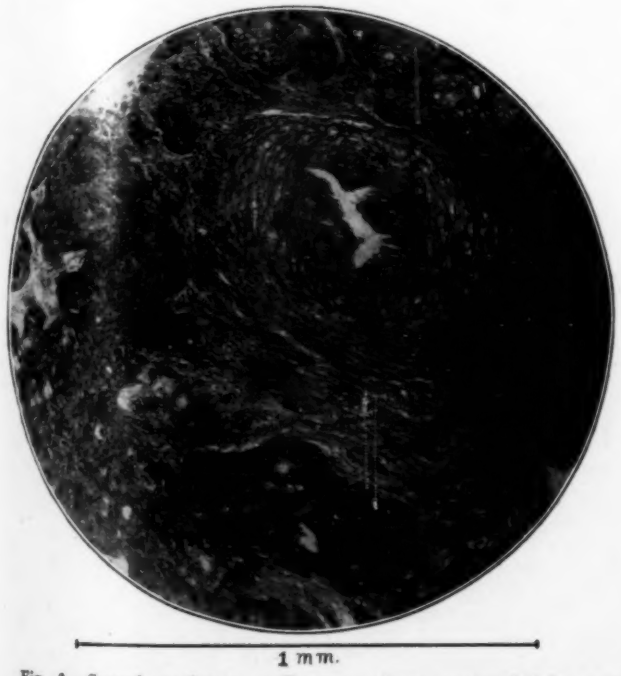


Fig. 3.—Second specimen: small artery almost surrounded by nests of tumor cells; arterial wall thickened, and the lymph spaces in the media distended; this change corresponds to the vacuolizing degeneration of Gassmann, described by him (Fortschr. a. d. Geb. d. Röntgenstrahlen **2**: 199, 1898-1899) as a characteristic arterial lesion in roentgen-ray dermatitis; the close relation of the new growth to a vessel of this size is significant of the deep infiltration which has taken place.

September 14, he returned to New York. A dram of scarlet red ointment mixed with an ounce of olive oil was applied for twenty-four hours. The pain at once became worse, and overproduction of granulation tissue appeared.

This treatment was stopped after one day. The pain was now so severe that the patient walked the floor every night, and was compelled to keep the hand elevated all the time.

Fig. 4.—Second specimen: skin at extreme edge of specimen; surgical incision is the left border; the carcinoma evidently infiltrates beneath the cutaneous epithelium to the surgical incision.

The protrusion of granulations continued, and the lesion progressively enlarged until nearly the whole ball of the thumb was involved. Clinically, it resembled the lesions on the left thumb and middle finger of the previous year, lesions which healed. The clinical diagnosis was infectious granuloma.

Excision of the central portion of the lesion was performed by Dr. J. J. Moorhead, October 28. The remainder of the lesion was excised, November 2, and the thumb was amputated by Dr. John F. Erdmann and Dr. J. J. Moorhead at the carpometacarpal joint, November 4. After the third operation there was great relief from discomfort, and the surgical wound healed with reasonable promptness.

At present (December, 1922), the skin over the backs of the hands appears almost normal except over the distal phalanges, where the epidermis is thin, smooth, dry and translucent so that the color is red. The palmar skin of all fingers is markedly altered, rough and hard, and harsh to the touch. On the left hand this alteration extends over the palm back to the wrist. On the right hand the palm is distinctly softer. There is a thick keratosis under the nail of the left thumb, with a healed fissure running through it, and a thick keratosis along the thumb side of the left middle finger. All the nails show exaggerated longitudinal striping, more marked on the left hand.

PATHOLOGIC REPORTS

First Specimen.—This tissue, removed, Oct. 28, 1922, was designated by the surgeon as "ball of right thumb, chronic inflammation of repeated radium irritation."

Gross: One piece measured 22 by 10 by 3 mm. It was mottled yellow, white and gray on one surface, and appeared to be largely necrotic. The tissue beneath was white and firmer than the surface, and showed hemorrhagic and gray markings.

The second piece measured 12 by 10 by 3 mm. This resembled the deeper parts of the first piece. It was generally soft.

Microscopic: Sections revealed the tissue to be necrotic for the most part. In it, however, one could recognize numerous irregular whorls of squamous epithelium. One small bit of tissue, which was viable, was made up of squamous epithelium with atypical cornification. In some places mitotic division figures were moderately numerous, as many as four being found in one oil-immersion field. The specimen did not present any normal tissue, so that the relationship between the normal and the abnormal could not be seen.

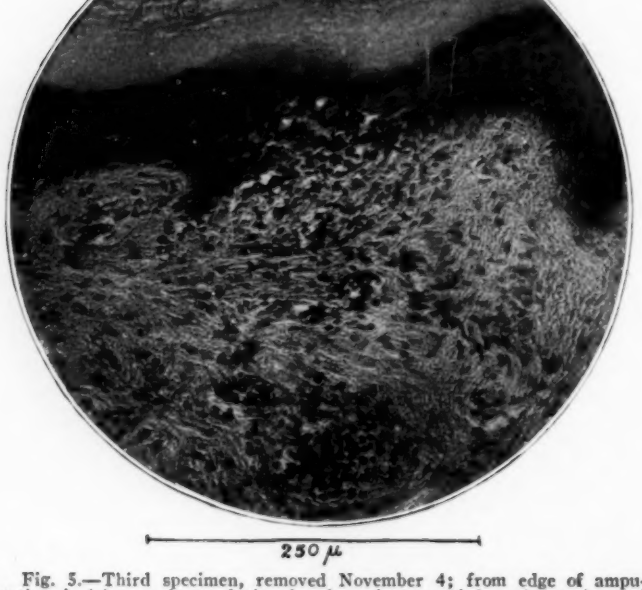


Fig. 5.—Third specimen, removed November 4; from edge of amputation incision at base of thumb; there is general hyperkeratosis, and near the center an edematous area infiltrated with round cells and plasma cells; this area includes the malpighian layer of the epidermis and the underlying dermis; it bears a suggestive resemblance to similar lesions described and figured by Unna in chronic roentgen-ray dermatitis.

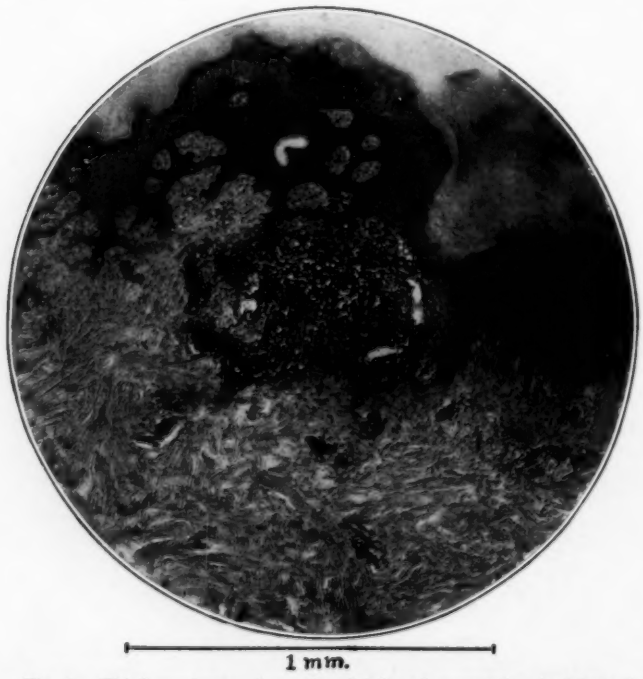


Fig. 6.—Third specimen: from the vicinity of amputation incision; the changes are of a more severe grade than shown in the preceding picture; hyperkeratosis and parakeratosis of the epithelium and exaggeration of the interpapillary epithelial ledges are distinct; near the center is a large edematous area, infiltrated with round cells and plasma cells, and involving the malpighian layer as well as the dermis; such a picture explains in part the roughness and harsh texture of the skin, and suggests a possible point for initiation of malignant activity.

The appearance was highly suggestive of disintegrating squamous-cell carcinoma, but one would not be justified in making such a diagnosis without a more satisfactory specimen. It was suggested that a section including the border of the lesion, together with some of the adjacent more normal tissue, be submitted for microscopic examination.

Diagnosis: This was: Inflamed and necrotic papilloma, suggestive of squamous-cell carcinoma. (Specimen unsatisfactory.)

Second Specimen.—This, removed, November 2, included the entire visible lesion and a margin of surrounding tissue.

Gross: The specimen measured 25 by 18 by 12 mm. It presented a gray, mottled, necrotic surface with underlying soft parts. The superficial portion appeared to be more dense than the deeper part.

Microscopic: Sections from various portions of the specimen showed extensive necrosis and infiltration with pus. Everywhere the connective tissue stroma was invaded by irregular nests and columns of squamous epithelial cells, many of which showed cornified centers. Groups of these cells were found infiltrating the lymph spaces close to the large blood vessels. Mitotic division figures were present in moderate numbers, and in some places as many as four could be found in an oil-immersion field. The epithelial new growth extended to the limit of the specimen in all the sections examined.

Fig. 7.—Third specimen: in upper part, sections of nerve; the fibrous sheaths are thickened; the changes have not yet been studied in detail, but it appears possible that the numbness of the skin may be related to such alterations in the nerves.

The extensive necrosis and the great irregularity in form, size and staining qualities of the epithelial cells, as well as their arrangement, all indicated a malignant activity.

Diagnosis: This was: Disintegrating squamous-cell carcinoma extending beyond the limits of the specimen submitted.

On microscopic examination of the sections from this specimen, Dr. James Ewing was consulted, and immediate amputation of the thumb was advised, November 3. This amputation was performed early on the following day.

Third Specimen.—This was the thumb of the right hand, amputated at the metacarpocarpal joint.

Gross: The ball of the thumb had been cut away over an area 37 by 23 mm. In the distal portion, under the nail, the

surface was mottled gray and dark brown, and was evidently extensively necrotic.

Microscopic: Sections from the floor of the wound cavity and from various places at its margin showed general inflammatory infiltration, and in several places small groups of the atypical squamous cells of the new growth.

Sections from the skin margin of the amputation wound disclosed that the skin was free from recognizable tumor cells. Even here, however, there was a definite excess of round cells in the lymphatic spaces about the subcutaneous blood vessels. There was also marked hyperkeratosis and parakeratosis of the epithelium.

Diagnosis: This was: Squamous-cell carcinoma of the distal phalanx of the right thumb, extending to the base of this phalanx. Mild inflammatory reaction at the site of the amputation incision at the level of the base of the first phalanx. Hyperkeratosis and parakeratosis of the cutaneous epithelium, even at the edge of the amputation incision.

COMMENT

It will be noted that the skin at a distance from the malignant lesion showed peculiar changes which bear a remarkable resemblance to some of those that have been described by Unna [2] in roentgen-ray dermatitis. The detailed consideration of these changes is beyond the intended scope of the present communication. We believe, however, that they are, in this case, related to radium exposure rather than to exposure to roentgen rays.

The accompanying illustrations are sufficiently explained by their legends. They are photomichrographs, not retouched.

We are willing to admit that the earlier work with roentgen rays throws some doubt on the causal relation of the radium to the lesions in this case. On the other hand, it is also evident that the exposure to roentgen rays was slight and somewhat remote in time in comparison with the more recent intensive exposure to large amounts of radium rays. It is at least clear that this exposure to radium has not sufficed to prevent the development of the carcinoma even if we would deny it any part in the causation. We are strongly inclined to the opinion that radium may, when exposure has been sufficient, give rise to changes in the skin predisposing to development of malignant new growth, much in the same way as roentgen rays are now generally known to do, and that radium has had precisely this effect in the instance before us. The reputation for harmlessness in this respect enjoyed by radium may after all depend on the fact that, so far, not very many persons have been exposed to large amounts of radium by daily handling over long periods. With the use of larger quantities of radium there is good reason to fear that neglect of precautions may result in serious injury to the radium workers themselves. For this reason the present case report has been presented.

SUMMARY

1. The patient worked with roentgen rays in his practice from 1905 to 1917 but not since then. Precautions for self-protection were carefully employed.

2. From 1912 to June, 1920, he handled radium, without precautions for self-protection, in small amounts up to 1915, but in quite large amounts from 1915 to 1920, from 200 to 365 mg. in individual tubes, taken between the right thumb and forefinger almost every day.

3. Various changes, which may be ascribed to the exposure to radium, began to be observed late in 1918, and since early in 1920 the skin changes have required constant care.

4. In September, 1922, a fissure on the ball of the right thumb manifested a peculiar and extremely painful alteration in character, and on excision in October this lesion proved to be a squamous-cell carcinoma.

2. Unna, P. G.: Die chronische Roentgendermatitis der Radiologen, Fortschr. a. d. Geb. d. Röntgenstrahlen 8: 67-91, 1904-1905.

Clinical Notes, Suggestions, and New Instruments

FRACTURE OF THE HEAD OF THE FEMUR, WITH DISLOCATION ON THE DORSUM OF THE ILIUM

GUY HINSDALE, M.D., HOT SPRINGS, VA.

The great rarity of fracture of the femoral head makes this case worthy of record. It occurred in a woman, aged 55, whose weight was about 160 pounds (72.5 kg.). She fell in attempting to jump from a motorboat to a wharf; she had reached forward to take a hand offered to her, and in jumping tripped over the gunwale of the boat and fell on the wharf, striking her left hip. She was immediately conscious of a severe injury, and stated that she had dislocated the right hip joint. She was unable to rise or move the limb, and was carried a short distance to her home.

I saw her at the landing, and took her to her room, where an examination disclosed the thigh partly flexed; the foot inverted; the limb shortened, and a slight crepitus on effort at rotation. The deformity was typical of dislocation on the dorsum ilii. On rotating the femur with the leg flexed, I could easily feel the rotation of the trochanter. Dr. B. Farquhar Curtis of New York was kind enough to see the patient shortly afterward, and under ether both of us made ineffectual efforts to reduce the dislocation. On a long radius adduction and rotation in the usual manner to effect reduction of the dislocation, it was not possible to effect a permanent reduction. The head could be placed opposite the acetabulum, but would not enter. We thought that some ligament or the capsule intervened. Crepitus was felt in these attempts. The shortening was about 3 inches.

The following morning the patient was taken 30 miles to Portland, Maine, where a roentgenogram revealed a fracture of the femur with the fragment lying on the lower margin of the acetabulum. There was a posterior dislocation of the femur on the dorsum of the ilium. Dr. E. G. Abbott, to whose care the patient was consigned, operated the same morning, and after opening the joint removed the fragment and effected reduction of the luxation. The wound was closed and a Buck's extension applied to the limb.

The fragment comprised about one-third the head of the femur. It measured 15 by 35 by 30 mm., and included the insertion of the ligamentum teres. The roentgenogram showed this fragment plainly on the lip of the acetabulum.

Recovery was prompt and satisfactory. The extension was removed in three weeks and motion instituted at the joint. The patient walked in two months, and in four months was perfectly well.

As to causation, is it not possible that the catching of the foot on the side of boat turned the head of the bone out on the edge of the acetabulum, and in the fall the patient struck the trochanter or fell with bent knee on the lower end of the femur? In either case a violent shock to the femur, driving the head against the brim of the acetabulum, might have split the head, part of it breaking off, while the bulk of it slipped out of the joint, producing a posterior dislocation. Fracture of the head of the femur is so rare that Keen [1] says that only three positive cases have been reported. Cotton [2] states that the only cases he has seen have been associated with dislocation: "The last one was associated with a dislocation, now quite complete, occurring in a Charcot joint then in the early

1. Keen: Surgery, Philadelphia, W. B. Saunders Company 2: 226, 1914.
2. Cotton, F. J.: Personal communication to the author.

stage." Of course, epiphyseal separations occur in children, but these are not what we are considering at present.

Keen refers to a case reported by Riedel and quoted by Hoffa which "resembled a backward dislocation of the hip, the operation revealing a splitting of the neck and head longitudinally."

In the case I have described, the strain exerted was comparatively slight, a misstep and fall; but the strain was exerted during an extreme position of the limb.

POSTINFLUENZAL HERPES ZOSTER

LESTER HOLLANDER, M.D., PITTSBURGH

The case here recorded presents a number of interesting points, in particular the after-effects of the recent influenza epidemic.

REPORT OF CASE

Mrs. W. D. W., aged 63, American born, a widow, seen, March 2, 1922, presented a marked vesicular eruption along the entire course of the eleventh dorsal nerve, beginning in the median line of the back and extending under the breast to the midclavicular line. The diagnosis of herpes zoster was unquestionable. The patient had been in perfect health during her entire life. There had been one pregnancy.

In March, 1919, she suffered a slight attack of influenza, which kept her in bed for three days. Her symptoms were mild and of the respiratory type. After getting up, she could not go through her daily routine as before, and she felt tired. Occasionally, she experienced vague pains, which her physician attributed to a gastro-intestinal toxemia, although there were no other symptoms except occasional lassitude, early exhaustion and vague pains.

After about a year, the patient was taken to a hospital, where a thorough search for a focus of infection or a manifestation of a metabolic disorder was made. As nothing was found, she was discharged.

In the fall of 1920, the vague pains, which continued, became localized about the sacro-iliac region, running down the left iliac fossa and about the thigh. This was considered from the angle of renal calculi, stricture of the ureter, sciatica and retrocecal appendicitis. The pains and discomfort remained the same for a few months. After a severe coryza, the symptoms became more marked, and they were accompanied by a vesicular eruption along the course of the sciatic nerve of the left side. No diagnosis was made; but the subsequent examination of the scars, their unilateral character, and the previous history stamps the condition as herpes zoster.

She was fairly comfortable from October, 1921, until January, 1922, when she again suffered pain and discomfort, in the right upper abdomen and right lower costal region. Examination, which was made for pleurisy, chronic appendicitis, gallstones, choleocystitis and duodenal ulcer, was without results.

About the middle of February, the patient had an attack of grip, and shortly afterward the pain about the chest became much more severe. It was followed by a herpetic eruption, which diagnosed as stated. A protective dressing controlled the eruption, which lasted about six weeks, drying off very slowly and leaving the skin highly sensitive to pressure, cold or heat. As the patient said, the skin felt "like cigaret paper."

Internally, large doses of neocinchophen were given, and eliminative measures were carried out. The pain, though less acute after the disappearance of the eruption, continued until July.

In June, the patient could not use her right arm on account of pain and discomfort. Shortly, she developed a brachial neuritis (neurologist's report). This increased in severity for about six weeks, and resulted in an ankylosis of the right shoulder, through disuse.

Although a fair amount of motion returned, the patient is at present (Jan. 3, 1923) still suffering with pain in her right arm and shoulder, the motion of which is greatly impaired.

COMMENT

This case presents several points of interest:

1. The history of a mild attack of influenza, with slow recovery.

2. Two attacks of herpes zoster, with a protracted and insidious onset, precipitated in each instance after an intercurrent infection.

3. The appearance of a brachial neuritis, which may again be shown, as on two previous occasions, to be a herpetic manifestation.

4. The apparent continuity and ascent of the involvement of the posterior root ganglions, sacral, dorsal and cervical.

The explanation which suggests itself is that, after the slight systemic influenzal attack, the infection became dormant in the posterior root ganglions and made its appearance as a chronic infection, with exacerbation at a time when the patient's resistance was lessened by an intercurrent infection.

625 Jenkins Building.

CASE OF CEREBRAL NEOPLASM SIMULATING DEMENTIA PARALYTICA, WITH OPERATION AND COMPLETE NEUROLOGIC AND MENTAL RECOVERY

CHARLES ROSENHECK, M.D., NEW YORK
Neurologist, Hospital for Joint Diseases

That intracranial growths are often responsible for varied psychotic disturbances is well known to neuropsychiatrists. These mental changes may vary from mild alterations to grave psychic defects. Nor is the location of the tumor mass indicative or diagnostic of the psychosis which may be part of the clinical picture. In other words, it would be absurd to attempt localization of an intracranial mass on the evidence furnished by the psychic alterations. One has to depend entirely on the disturbances in neurologic functions for localizing data. Some modifications of these recognized observations may be made, however, in growths involving the frontal lobes. In this area, a fairly well defined psychotic picture unfolds itself, so that, in association with other neurologic signs, one may safely venture a positive localizing diagnosis.

The case here reported presented the neurologic signs and the psychiatric picture in a manner so vivid and clear cut that the diagnosis and localization were a matter of comparative ease. Since the mortality in brain tumors still remains discouragingly high, and this patient survived the operative procedures and made a complete mental and neurologic recovery, one is warranted in giving the sequence of events in an interesting neuropsychiatric syndrome.

REPORT OF CASE

History.—A man, aged 50, a butcher, gave a history that was uneventful until fifteen years ago, when he was struck on the right side of the head with a glass bowl. He was not rendered unconscious, and the scalp wound healed readily. Apparently, there were no disturbing factors until, within a few months after the injury, an insidious headache developed which, as the years went by, became increasingly worse. The pain was little abated by the ingestion of headache remedies in large amounts, taken over a period of fourteen years. The headache was more or less continuous and was worse at night. Although there was some remission in its severity, it was never entirely absent. The idea of suicide was often entertained by the patient as a relief from his miserable condition. Two years ago, he showed for the first time a decided personality change. He neglected and mismanaged his business, indulged in fantastic financial transactions, became unduly generous to friends and strangers, and thus managed to rid himself of all his money and business. Marked irritability of temper also became manifest, and memory defects, particularly for recent events. No gross conduct anomalies intruded themselves in the clinical picture, but an inordinate sense of well-being, particularly noticed by his relatives, became increasingly evident. Defects in the psychic and

* Presented before the Section on Neurology and Psychiatry of the New York Academy of Medicine, Dec. 12, 1922.

emotional sphere now became obvious by the development of alternating periods of depression and elation, indulgence in silly witticisms—the "witzelsucht" of the Germans—and minor infractions of conduct. At this time, a diagnosis of paralytica dementia was seriously entertained by his medical advisors. About one year ago, his vision became affected, and diplopia was complained of a number of times. There was no vomiting, vertigo or gait disturbance at any time during the course of the affection. The constitutional state remained excellent, the digestive system functioning in a normal manner. In spite of his condition, a steady gain in weight was noted. Sleep was disturbed on account of the headaches. Convulsive phenomena were present twice, six weeks before the operative procedure was undertaken. There was complete loss of consciousness both times, recovery being complete without residual phenomena of any type.

Examination.—There were no abnormal attitudes of the voluntary motor system. Gait and station were entirely normal. All coordinative tests were correctly performed. All skilled test acts showed no deviation from the normal. There was no dysmetria or other disturbances of dyssynergia.

The deep reflexes of the upper and lower extremities showed a greater activity on the left side than on the right side.

The superficial reflexes showed normal responses, with the exception of the left abdominal, which were elicited with difficulty and at best responded feebly. A suggestive pathologic extension of the great toe was present on the left side. There were no abnormal involuntary movements or demonstrable abnormal associated movements. The peripheral neural apparatus showed no pathologic alterations or impairment in its behavior.

The general sensory examination revealed no demonstrable deviations from the normal.

Cranial nerves: The pupils reacted promptly to light and accommodation. The fundi oculi showed marked narrowing of the arteries, engorged and tortuous veins, retinal hemorrhages, and edema around the nerve heads, with an elevation of 4 diopters in the right eye and 6 diopters in the left eye. The seventh nerve on the left side showed a central type of palsy, which manifested itself in voluntary efforts and emotional behavior. The rest of the cranial nerves showed complete functional integrity.

Serologic examination of the blood and spinal fluid was entirely negative.

Comment.—Thus, we have a history of trauma (a not uncommon provocative factor in brain tumors), headaches extending over a period of many years, grave psychic changes, which simulated paralytica dementia quite faithfully, and finally the development of left sided hemiplegic phenomena plus marked double choked disks.

Diagnosis.—In view of these findings, a diagnosis of right frontal lobe neoplasm was ventured and the patient was referred to Dr. Elsberg for operation.

Operation and Result.—A large growth occupied the right frontoparietal area, extending from the dura to the base of the frontal fossa, and displacing the brain mass in all directions for a considerable distance. It was readily removed, and proved to be an endothelioma, which had evidently taken its origin from the dura mater.

The patient showed no ill effects from the operation and no disturbing incidents marred his convalescence. There were no further headaches; the mental condition cleared up amazingly within a short time after the operation, and the elevation of the disks receded to normal, although some haziness of the nerve head with slight blurring of the edges still remains as the sole residual of the preexisting papilledema. The hemiplegic phenomena have disappeared, a very slight increase in the reflexes being still discernible as evidence of a former involvement.

At present, a little more than six months since the removal of the tumor, the patient is actively engaged in business and is apparently in excellent physical and mental condition.

370 Central Park West.

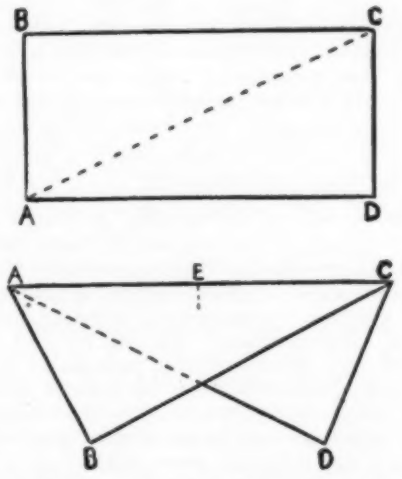
A DOUBLE TRIANGLE TOWEL SHOULDER-CAP

GEORGE DAVID CUTLER, M.D., BOSTON

I have found the folded towel shoulder-cap here described useful to retain dressings on wounds of the shoulder, the axillary region and the groin. It has been used successfully as a shoulder-cap in combination with a swathe following operations on the breast, especially to complete the dressing of the operation wound following amputation of the breast and dissection of the axilla.

A sterile towel measuring 18 by 36 inches is folded along the line *A C*. The folded towel is then placed over the shoulder so that the corner *B* falls back of the arm, and *D*, in front. *A* is tucked under the swathe posteriorly, and *C*, anteriorly. Safety pins are employed for fastening along the line of union of the shoulder-cap and the swathe. Corners *B* and *D* are then overlapped under the arm and pinned, finishing the dressing.

A towel so folded has also been found useful as a head bandage, for which use it varies only slightly from the triangular bandage. In this connection, it may be used as an operating cap. It is valuable for retaining dressings at the groin, as well as in the axilla. In the first instance, the



Double triangle towel shoulder-cap: method of folding.

points *A* and *C* are pinned beneath the opposite axilla. *B* and *D* are pinned under the arm on the affected side, with additional pinning at other points as required, especially in making a dart at *E*. For use at the groin, the points *A* and *C* are pinned together above the opposite hip and *B* and *D* at the inner side of the diseased or wounded thigh.

Its advantages over the triangular bandage are apparent only in the vicinity of the flexures of the body.

270 Commonwealth Avenue.

A CASE OF RENAL GLYCOSURIA

WILLIAM ALLAN, M.D., CHARLOTTE, N. C.

In defining renal glycosuria, Strouse[1] gives four points of differentiation from diabetes mellitus: (1) glycosuria without hyperglycemia; (2) glycosuria almost entirely independent of carbohydrate intake; (3) absence of diabetic symptoms, and (4) no subsequent development of diabetes mellitus. Paullin[2] has added a fifth characteristic in this condition, that sugar shall be constantly present in the urine.

That renal glycosuria shall not later become diabetes mellitus necessitates a prolonged observation of such patients, and this is the reason for reporting a case in which glycosuria was discovered eighteen years ago, the patient having been employed in a hospital for the sake of supervision for the

1. Strouse, Solomon: Renal Glycosuria, Arch. Int. Med. **26**: 768 (Dec.) 1920.
2. Paullin, J. E.: Renal Glycosuria, J. A. M. A. **75**: 214 (July 24) 1920.

last nine years. Bailey[3] has reported a case in which glycosuria has been known for ten years, and says, "The patient's history points strongly to this being a congenital condition." Strouse has observed a case for eight years, Garrod[4] and Bonninger[5] each one for six years, Goto[6] one for five years, and Paullin one for four years. Johnsson[7] has recently reported two cases of ten and sixteen years' duration, respectively.

REPORT OF CASE

History.—A white woman, aged 35, single, who had been sent to a clinic because of infected sinuses, was referred to me, Jan. 25, 1922, with glycosuria. For the preceding six weeks she had fever, headache and stopped nose, with infected left antrum and ethmoids; ten days before I saw her the nose "abscessed again," and the antrum had been washed the day before.

The mother died of heart trouble and cancer of the uterus at 50; the father was healthy at 80. The patient had four brothers, one with asthma, one with lung trouble, one with indigestion, and with some sort of kidney trouble. She lost a sister from chronic interstitial nephritis following childbirth. Two sisters were living, one healthy, one with ulcerated bowels. A third cousin died with diabetes mellitus.

The patient had had pertussis, measles, chickenpox and scarlet fever, but not typhoid or malaria. She had grip in 1912, and her sinus troubles date from this sickness; in 1919 she had influenza. At the age of 12 she had severe colic all one night, and again four years later; she had diarrhea with these attacks, but did not remember having either fever or vomiting. The pain was in the middle of the abdomen. In 1918 she had severe colic across the upper abdomen, requiring morphin. She had had a good deal of colic and constipation all her life. The menstrual history had been normal. At the age of 18 she was weak, nervous and short of breath; she had pruritus vulvae, and sugar was found in the urine. She did not remember having had at any time unusual hunger, thirst or polyuria. Her weight when 18 was 108 pounds (49 kg.); during the last seventeen years it had varied from 85 to 100 pounds (38.5 to 45 kg.). During the first nine years after glycosuria was discovered she took medicine intermittently, and once restricted her diet for a short time. During the last eight years she had been employed in the linen room at a hospital, where she was under medical supervision. She had dieted now and then, but never adhered to a diet long, though she once fasted four days. She said that during the last seventeen years the urine had never been sugar free at any examination; but, on the whole, she thought that she was as well as when sugar was first discovered.

Examination.—Because of the glycosuria, the patient was referred to me for treatment, preliminary to opening the sinuses. She was pale, thin and frail, having no appetite, thirst or polyuria, and suffering steadily and intensely from the infected left antrum. Five years before and again during the preceding year she had some swelling of the ankles. The skin was pale and transparent. The pupils were equal, and reacted to light and distance. The ocular movements were normal; there were no thyroid eye signs. The left antrum and ethmoids were infected. The throat, tongue and teeth were normal. There was no thyroid struma, and no enlargement of the superficial glands. The lungs were clear. The heart size and sounds, rate and rhythm were normal. The blood pressure was: systolic, 120; diastolic, 80. There was no tremor of the extended fingers. The abdomen was normal. The reflexes, joints and spine were normal. The height was 63 inches (160 cm.); the weight was 98 pounds (44.5 kg.). Blood examination revealed: hemoglobin, 90 per cent.; red cells, 4,464,000; white cells, 17,600. The urine was acid, with a specific gravity of 1.035; examination was negative for albumin, bile and indican: 4 per cent. glucose was present; microscopic examination was negative.

Treatment and Course.—Thinking this was a case of diabetes mellitus, I put the patient on a diet of 270 gm. of lean meat daily, and after six days increased this to 360 gm., with 3 ounces of thrice boiled cabbage. She began to show diacetic acid the second day, and edema of the ankles the third day of this regimen, and lost 7 pounds (3 kg.) in as many days. The glycosuria was undiminished, and on the eighth day the blood sugar, two and one-half hours after 90 gm. of lean meat, was 10 mg. for each hundred cubic centimeters, while the urine was still full of sugar. On the thirteenth day she was given 1.68 gm. of glucose for each kilogram of body weight. The blood sugar was 23 mg. two hours later, and 15 mg. three hours later. She was then given bread with each meal, and the diacetic acid disappeared after one day and the edema of the ankles after two days. Her diet was rapidly increastd until she was eating what she pleased, after two weeks of diet restriction in a vain effort to render the urine sugar free. During the following forty-one days on unrestricted diet the urinary output averaged 50½ ounces, with sugar constantly present, the amount excreted in twenty-four hours varying from 16 to 49 gm. Varying the diet had no constant effect on the amount of sugar excreted. On a diet containing protein, 104 gm., fat, 80 gm. and carbohydrate, 62 gm., the urinary glucose amounted to 23.5 gm. On protein, 62 gm., fat, 184 gm. and carbohydrate, 96 gm., only 16.5 gm. of glucose was excreted. On protein, 37 gm., fat, 42 gm. and carbohydrate, 68 gm., 39.5 gm. of glucose was excreted. Fermentation and phenylhydrazin tests confirmed the supposition that the urinary sugar was glucose. The phenolsulphonephthalein output was always above 50 per cent. in two hours. A radical sinus operation was performed under ether, February 18, with uneventful recovery. March 10, the patient was given 3.3 gm. of glucose for each kilogram of body weight. The blood sugar before was 12 mg., and two hours after, 13 mg. for each hundred cubic centimeters. In July and October, 1922, the patient still had marked glycosuria with normal blood sugar.

CONCLUSION

The various postulates for the diagnosis of renal glycosuria are fulfilled in this case, and a patient with known constant glycosuria for eighteen years has not yet developed any signs or symptoms of diabetes mellitus.

3. Bailey, C. V.: Am. J. M. Sc. **157**: 221 (Feb.) 1919; Studies on Alimentary Hyperglycemia and Glycosuria, Arch. Int. Med. **23**: 455 (April) 1919.
4. Garrod, A. E.: Brit. M. J. **2**: 850, 1912.
5. Bonninger, M.: Deutsch. med. Wchnschr. **34**: 780, 1908.
6. Goto, Kingo: Alimentary Renal Glycosuria, Arch. Int. Med. **22**: 96 (July) 1918.
7. Johnsson, A.: Finska Läk.-Sällsk. Handl. **64**: 429 (Sept.-Oct.) 1922; abstr. J. A. M. A. **80**: 70 (Jan. 6) 1923.

HEMATURIA AND APPENDICITIS

THOMAS W. TORMEY, M.D., AND ALBERT R. TORMEY, M.D.,
MADISON, WIS.

Many cases of stone in the ureter have been mistaken for acute appendicitis, and appendectomy has been performed; but it is rather rare for appendicitis to be mistaken for stone in the ureter.

REPORT OF CASE

History.—C., a farmer, aged 52, was seized with a severe pain in the right upper abdomen, Dec. 23, 1922, which persisted for one hour and was relieved by hot applications. The following day, he had another attack of pain on the right side, radiating to the scrotum and the head of the penis. He took castor oil, and felt relieved. He noticed that blood was present in the urine.

During the night, he had another attack of pain, which was so severe that he called a physician, who gave him a hypodermic of morphin and atropin. It was necessary to give three-quarters grain of morphin in order to relieve the pain. He was advised to enter the hospital, but refused. There was no rigidity of the abdominal muscles, and no nausea or vomiting.

The following afternoon, he had another severe attack of pain, radiating from the lumbar region anteriorly and into the scrotum, and he passed more blood. He now consented to be removed to the hospital.

Examination.—He was admitted at 11 p. m., December 25. At this time, his temperature was 98.8 F.; pulse, 88; respiration, 20; leukocyte count, 10,400. Urinalysis revealed a specific gravity of 1.030, a trace of albumin, a few red blood cells and casts ++++. Otherwise, the physical examina-

tion was practically negative. On account of the findings, a working diagnosis of right ureteral calculus was made.

The following day, however, he passed but 13 ounces (390 c.c.) of urine, which had a heavy trace of albumin and casts ++++. He complained of being drowsy, but felt comfortable otherwise. The blood pressure was: systolic, 130; diastolic, 85. Hot packs were employed, and he was given plenty of fluids, and in forty-eight hours, the urinary output increased to 35 ounces (1,050 c.c.), the casts and blood disappeared, and he felt better in every way. Roentgen-ray examination of the right kidney and ureter regions was negative for ureteral calculi. On cystoscopic examination, a No. 5 French catheter met some obstruction about 4 inches (10 cm.) from the ureteral orifice on the right side, but there was some urine coming from the kidney. The left kidney and ureter were normal. The patient felt comfortable. There was no rise in temperature, and the leukocyte count remained at 10,500. Following cystoscopic examination, there was some local tenderness on deep pressure in the right iliac fossa.

Operation.—A modified Gibson incision was made, and the lower ureter was isolated, but no evidence of a calculus was found. There was no thickening of the ureteral wall and no dilatation. On palpation, a small mass was felt within the peritoneum, and this led us to open the general cavity rather than continue toward the kidney. A gangrenous appendix dipping over the pelvic brim was found, the perforated tip being bathed in about 1 dram of colon pus. This was removed; a cigaret drain was inserted, and the wound was closed in layers.

The patient had an uneventful convalescence.

COMMENT

The case history and urinary findings, together with the lack of fever and local tenderness in the right lower quadrant of the abdomen, were sufficient grounds for a working diagnosis of ureteral calculus. The sudden decrease in urinary output following admission to the hospital also pointed to a kidney lesion.

The position of the appendix, which was lying on the ureter just below the pelvic brim, was probably the cause of the hematuria and the referred pain. It is also possible that there was sufficient congestion of the ureter at this point to interfere with the passage of the catheter.

811-816 Gay Building.

A SIMPLE METHOD OF USING GIEMSA'S BLOOD STAIN

M. W. LYON, JR., M.D., SOUTH BEND, IND.

The customary method of using Giemsa's stain by employing the freshly diluted stock solution, 1:10 or 1:15, with distilled water, makes the use of this excellent stain somewhat troublesome and expensive. The procedure here described simplifies the method, saves stain, and makes it almost as easy to use as is Wright's stain or its modifications. The blood film is fixed by immersing the slide in a jar of methyl alcohol or by pouring the alcohol over it. A half minute appears ample time. After drying, the film side is covered with distilled water, and from three to five drops of the stock Giemsa stain is added to the water in different portions of the slide. A slight rocking of the slide insures uniform mixing of the stain and water. The mixture of the stain and water is allowed to act for about fifteen minutes. The stain and water are then washed off with distilled water until the film appears pink. The results appear more uniform and certain than they do in the use of Wright's stain or its modifications for the formed blood constituents, and are particularly good in the case of malaria parasites.

Nucleoprotein in Tubercle Bacilli.—While it has been known for a long time that nucleoprotein constitutes a considerable part of the cell of tubercle bacilli, it was not until 1898 that an attempt was made to separate a nucleic acid from this organism.—Johnson and Brown, *J. Biol. Chem.*, December, 1922.

Special Article

THE CARE AND FEEDING OF INFANTS

(Continued from page 401)

[NOTE.—This is the seventh of a series of articles on the care and feeding of infants. It is addressed to the general practitioner rather than to the pediatric specialist. When completed, the series, somewhat elaborated, will be reprinted in book form.—ED.]

THE ARTIFICIAL FEEDING OF INFANTS

A critical study of the work of the last fifty years in the artificial feeding of infants shows that the morbidity and mortality of infants has been definitely lowered. This has been brought about largely through a better understanding of the biology and chemistry of milk, and through applying to its collection and preservation the knowledge of the laws governing the incidence and growth of bacteria.

The progress during the last decade in the artificial feeding of infants may be summarized in the statement that the one great step that has placed their feeding care on a sound basis is that their physiologic requirements are now given first consideration. This has been made possible through a better understanding of individual needs in fat, protein, carbohydrates, salts, accessory food factors and water, to secure body growth and development.

General rules may be laid down for the average full-weight and robust infant (fortunately, in the majority) who only requires supervision over his reaction to a properly balanced diet. But there remains a considerable number comprising (1) infants born congenitally weak, and (2) infants who have developed pathologic conditions secondary to food disturbances and infections. These will require the *strictest individualization* in the selection and application of their diets.

If conclusions were drawn leading to the belief that our knowledge of artificial feeding is complete, great injustice would be done to the infant. Indeed, much is to be hoped for as our information on this subject advances, and this applies with equal force not only to the feeding of the exceptional and sick infant but also to the feeding of the normal child.

Laxity in the regulation of the feeding care of the infant during its first weeks is one of the greatest obstacles to a more complete success, for in this period the pathologic foundation is laid on which nutritional disturbances develop. The successful feeding of infants depends, therefore, on the recognition of the necessity of (1) a proper interpretation of the needs of the individual infant, and (2) experience on the part of the physician in meeting those needs.

COW'S MILK AND GOAT'S MILK

It cannot be too strongly emphasized that artificial feeding must not be considered as a substitute for breast feeding but only as an emergency measure. The best alternative is feeding with properly modified milk of other animals, and, for practical reasons, cow's milk and goat's milk have been found best suited for this purpose. Because of the marked chemical, physical and biologic differences between human milk, and cow's

and goat's milk, human milk is superior to the others in infant feeding. The differences are greater than Table 5 indicates.

COW'S MILK

Cow's milk is more opaque than human milk, although the latter may contain a greater percentage of fat. This is due to the opacity of the calcium-casein, present in greater proportion in cow's milk. Cow's milk is faintly acid or amphoteric when freshly drawn, but ordinarily is distinctly acid in reaction when consumed. Human milk is amphoteric or alkaline.

TABLE 5.—COMPARATIVE ANALYSIS OF BREAST, COW'S AND GOAT'S MILK

Reaction	Human Amphoteric or Alkaline	Cow's Amphoteric or Acid	Goat's Amphoteric
Specific gravity	1.010 to 1.040	1.029 to 1.034	1.030
Proteins	1.5 to 2.0%	3.5%	3.76%
Caseinogen	0.5 to 0.75%	3.02%	2.87%
Lactalbumin	1.23%	0.53%	0.89%
Effect of rennin	Clots in fine curds	Large curds	Large curds
Fat	3.5 to 4.0%	4.0%	4.0%
Lactose	6.0 to 7.0%	4.5%	4.5%
Salts	0.2%	0.75%	0.85%
Total solids	12 to 13%	13 to 14%	13.0%
Water	86 to 88%	86 to 87%	86 to 87%
Bacterial content	Practically sterile	Never sterile	Never sterile

Three times as much protein is found in cow's milk as in human milk. The reason for this is obvious when we recall that the ratio of growth of the calf to that of the infant is about as 2:1. Furthermore, the protein in cow's milk consists chiefly of casein (3.02 per cent.) and a little lactalbumin (0.53 per cent.), while human milk contains from 0.5 to 0.75 per cent. of casein and 1.23 per cent. of lactalbumin. The sugar in the two milks varies greatly in amount but not in kind. Cow's milk contains more than three times the amount of inorganic salts in human milk.

Infants on whole cow's milk, therefore, live on a higher plane of mineral metabolism than infants on breast milk. Owing to a similar proportionate content of salts in the two milks, simple dilution, while equalizing most of the salts, will leave others either in excess or insufficient. Fortunately, excessive amounts of milk salts are rarely harmful to normal infants, as those in excess of the body needs are excreted. The greater danger lies in mineral starvation or a diet improperly balanced in its mineral content. The importance of salts to body function and growth in the artificially fed infant will be considered later in detail.

There is no great difference in the average amount of fat in the two milks; however, both in human milk and in cow's milk fat is the most variable constituent.

The curd from cow's milk is usually tougher and forms in larger masses than in human milk. There are also differences in antibodies, ferments, etc.

Protein.—The protein in cow's milk consists of insoluble calcium caseinate and soluble lactalbumin, lactoglobulin, mucin and opalisin. Of these, the casein (85 per cent.) and lactalbumin (15 per cent.) form the greater part of the protein content, the others existing in negligible quantities.

Casein.—This is in suspension, and is rapidly precipitated by weak acids and by rennin, but it is not coagulated by boiling. The casein of raw cow's milk precipitates as large, tough curds, thereby differing from the fine, flocculent curd of human milk. The physical properties of cow's milk curds can be changed by boiling the milk, and by adding alkalis, such as sodium citrate, sodium bicarbonate and lime water. Following such additions, the curd becomes finely divided, resembling the curds of breast milk. By the addition of cereal water in the milk dilution, a similar effect is obtained through the mechanical fragmentation of the curd by the interspersed starch particles. Splitting of the curd shortens the period of digestion, the finer curds passing the pylorus more readily, which brings them in contact with the intestinal juices in a shorter time.

Lactalbumin.—This is not coagulated by acids or by rennin, but is coagulated by heating to 72 C. or higher.

Fats.—The fat is suspended in the milk serum as an emulsion. The droplets or globules vary in size; on the average, they are smaller in milk from Holstein than from Jersey, Guernsey or shorthorn breeds. The fat droplets are lighter than the milk serum and therefore rise on standing (gravity cream), or they may be readily separated by centrifugal force (centrifugal cream). The chemical composition of the fat of cow's milk differs from that of human milk in that it contains more tripalmitin and less triolein. This difference is of practical importance, since the calcium and magnesium soaps of palmitic acid are much less readily absorbed from the intestinal tract than are the soaps of oleic acid. Cow's milk also contains a considerable proportion of glycerids of the lower or volatile fatty acids, which under certain circumstances may irritate the intestinal tract, resulting in diarrhea. Not only is there difference in the size of the fat droplets from certain breeds of cattle, but the average total fat content varies very materially. The average fat content for different herds as given by Van Slyke and Publow,[17] is reproduced in Table 6.

Lactose.—This is the principal sugar in both cow's and human milk, its chemical composition in the two being identical. Average human milk contains from 6 to 7 per cent., and cow's milk from 4 to 5 per cent. The larger sugar content of human milk, with its fermentation, accounts for the laxative effect of breast-milk feeding when the milk is abundant.

Salts.—Salts are necessary in digestion and in every step of metabolism, from absorption to secretion and excretion. The rôle of salts in both normal and pathologic conditions has assumed increased importance under the investigative studies of the last few years.

TABLE 6.—FAT CONTENT OF MILK OF VARIOUS HERDS

Breed	Fat Percentage
Holstein-Friesian	3.26
Ayrshire	3.76
American Holderness	4.01
Shorthorn	4.28
Devon	4.89
Guernsey	5.38
Jersey	5.78

Human milk contains 0.2 gm. of ash in 100 c.c., and cow's milk 0.75 gm. The difference in percentage in human and in cow's milk is equalized, as the body uses only what is necessary for its life and growth.

All the salts except those of iron are in larger amounts in cow's than in human milk. Cow's milk contains relatively a very large amount of calcium phosphate, while the amount of iron in cow's milk is less than that in human milk. Human and cow's milk differ greatly in the form of the phosphorus content.

17. Van Slyke and Publow, quoted by Heineman (Footnote 24).

In human milk, three quarters of the phosphorus is in organic combination, while in cow's milk only one quarter is so combined. Neither in human nor in cow's milk is the iron content sufficient to meet the demands in the first year of life; the infant must depend on the iron stored during the fetal life.

The percentages and grams of the different salts of human and cow's milk, as found in 100 parts of ash, are given in Table 7.

TABLE 7.—SALTS OF HUMAN AND OF COW'S MILK

AVERAGE PERCENTAGES OF DIFFERENT SALTS IN THE ASH

	CaO	MgO	P_2O_5	Na_2O	K_2O	Cl	Fe
Human milk.....	23.3	3.7	16.6	7.2	28.3	16.5	0.00015*
Cow's milk.....	23.5	2.8	26.5	7.2	24.9	13.6	0.00007*

GRAMS OF SALTS FOR EACH HUNDRED CUBIC CENTIMETERS OF MILK

	CaO	MgO	P_2O_5	Na_2O	K_2O	Cl	Fe
Human milk.	0.0458	0.0074	0.0345	0.0132	0.0609	0.0358	0.00017*
Cow's milk..	0.172	0.02	0.2437	0.0465	0.1885	0.082	0.00007†

* Holt, L. E.; Courtney, A. M., and Fales, H. L.: A Chemical Study of Woman's Milk, Especially Its Inorganic Constituents, Am. J. Dis. Child. **10**: 229 (Oct.) 1915.

† Langstein and Meyer: Säuglingsernährung und Säuglingsstosswechsel, Wiesbaden, J. F. Bergman, 1914, p. 22.

In all the constituents except phosphorus pentoxid and iron, the percentages of the different salts in the two milks are practically the same. The higher proportion of phosphorus in cow's milk is due to the large amount of casein. While the *proportion* of salts in cow's milk is nearly the same as in human milk, the *amount* is about three times as great. Unless, therefore, cow's milk has been diluted with more than twice its volume, these inorganic constituents are furnished to the infant in equal proportion to that in human milk (Holt). Human milk contains about twice as much iron as cow's milk, and dilution of cow's milk results in a decrease in the iron content which must not be carried too far unless supplemented by other iron-containing food.

Ferments.—Cow's milk contains a number of ferments, but little is known of their value to the infant. Escherisch and Hamburger thought that they had a favorable influence on the processes of metabolism. Salge discovered that tetanus and diphtheria antitoxins could be utilized by the infant only when found in human milk, while when contained in the milk of other species they did not get into the body fluids.

Vitamins.—Cow's milk contains fat-soluble A in considerable quantity, and water soluble B and C in lesser amounts.

Bacterial Content.—The bacteria of cow's milk vary in kind and number, depending on the conditions under which the milk is collected, preserved and handled. While human milk may be either sterile or have a low bacterial content, cow's milk is never sterile, and only too frequently, through carelessness, the original flora multiply rapidly. Certified, pasteurized and sterilized milk was the practical outcome of the efforts made to obtain germ-free milk for infant feeding.

The harmful or undesirable micro-organisms occurring in milk are of two classes. (1) Those that are definitely pathogenic and capable of producing infectious disease. Examples are the typhoid and dysentery groups, the tubercle bacilli, the virus of scarlet fever and *Bacillus abortus.*[18] (2) Saprophytic bacteria, some of which decompose milk and form products capable of causing gastro-intestinal disturbances.

18. Fleischner, E. C., and Meyer, K. F.: Bacillus Abortus, Bovinus in Certified Milk, Am. J. Dis. Child. **14**: 157 (Sept.) 1917.

Of the nonpathogenic organisms, those most frequently found are the lactic acid-producing bacteria. The most common types are: *Streptococcus lacticus, Bacillus lactis-acidi, B. Lactis-aerogenes, B. bulgaricus, B. acidophilus* and *B. bifidus.* The micro-organisms producing only lactic acid are mostly harmless, and the lactic acid itself in the amounts produced in milk does not cause diarrhea when fed. In fact, the production of lactic acid leads to the destruction of many of the more harmful varieties of bacteria in milk.

The butyric acid group is also frequently present. This group produces butyric acid by its action on sugar and fat. Another group frequently found in milk are the proteolytic bacteria, which coagulate the milk and may cause a further splitting of the protein. *Bacillus coli,* which, as well as others, has the property of producing lactic acid; *B. proteus, B. alkaligenes,* the hay bacillus, *B. aerogenes-capsulatus* and others belong to this group. Most of the latter are sporebearing.

Slime-forming bacteria occasionally invade the milk. Among the most tenacious of these is *B. lactis-viscosi. Streptococcus lacticus* occasionally causes similar changes. At times the milk becomes bitter, because of the formation of peptones by contaminating organisms. Certain vegetables and plants may cause a similar taste in the milk. Occasionally a milk of reddish color is seen. This may be due to blood from the udder, or to the action of *B. prodigiosus.* A blue milk is even more common, and is due to *B. cyanogenes.* Protein and carbohydrate splitting yeasts and molds not infrequently invade the milk and cause changes that become more evident as the milk grows older.

(To be continued)

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

DIPHTHERIA IMMUNITY TEST (SCHICK TEST)

(See New and Nonofficial Remedies, 1922, p. 320).

Parke, Davis & Co., Detroit.

Diphtheria Toxin and Control for Schick Test.—Marketed in packages containing one vial of 0.1 Cc. of undiluted, standardized diphtheria toxin, one vial of 5 Cc. of sterile physiologic solution of sodium chloride, one vial of 5 Cc. of diluted control for the Schick test, and one sterile syringe point in a sealed glass tube. The dose is 0.1 Cc. of the diluted toxin or 1/50 of the minimum lethal dose of diphtheria toxin for a guinea-pig of 250 Gm. weight: each package, therefore, contains material sufficient for 50 doses. The control for the Schick test represents diluted diphtheria toxin heated sufficiently to destroy the specific exotoxins.

Course of Training Needed for Physiotherapists.—My suggestion to this organization is to endeavor to establish a course of training and to get this recognized by the state and made acceptable to the medical profession. If you are going to organize this field, the standards must be high enough to keep out the ignorant and unscrupulous. Otherwise, hundreds of people with only a common school education, without any special training, will be brought in, and the name is apt to fall into disrepute and the profession became the refuge of broken-down boxing masters who empirically use its methods in a symptomatic way.—R. L. Wilbur, *California State J. Med.* **21**:25 (Jan.) 1923.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

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SATURDAY, FEBRUARY 17, 1923

THE DISTRIBUTION OF METABOLITES IN THE BODY

In a recent essay on the nonprotein nitrogen of the blood in health and in disease, Folin [1] remarked that the reasoning power of the earlier clinical investigators of the blood was necessarily much superior to their analytic skill or their meager laboratory facilities. Furthermore, their analytic data could have been little more than mere ornaments attached to good, logical conclusions. Nevertheless, as Folin points out, the correctness of the concept that waste products must accumulate in the blood when the kidneys fail to perform their function in the formation of urine was established as early as 1821, when Prevost and Dumas showed that extirpation of the kidneys was followed by a gradual increase of the urea content of the blood —a finding repeatedly verified by investigators since that time.

Logic and correct guesses are now being supplanted by accurate analytic observations in the chemical study of the blood, a procedure that is already destined to become a part of the routine of the medical clinic. As an outcome of what has already been ascertained from numerous analyses, it is evident that certain constituents, such as sugar, urea, creatinin and uric acid, which can now be estimated on small samples of blood, are present in the circulation during health in relatively constant and fixed proportions, whereas they are subject to decided changes in concentration in certain diseased states in which they may actually become indicative of the pathologic situation. Whether or not these fluctuations are reflected in changed concentration of metabolites in the tissues also has been ascertained for a few of the substances. There is no doubt that the readily soluble and diffusible urea penetrates speedily to all parts of the body. Recently Rypins [2] of the Department of Medicine at the University of Minnesota has made new comparisons of the distribution of metabolites between the blood and other body fluids. Although his studies with ingested urea indicate that during the period of its elimination there is no constant parallelism in the concentration of nitrogenous metabolites of the blood and tissues, both the estimation of the body fluid metabolites and the comparison of metabolites in the blood and tissues strongly suggest a tendency to equilibrium throughout the organism. This, Rypins adds, does not necessarily mean that a normal concentration of metabolites in the tissues approximates that in the blood; it means that the metabolites are distributed between them in a fairly constant proportion, and that an increase in one is paralleled by a proportionate increase in the other. No characteristic difference in the metabolite concentration of exudates and transudates was observed. In cases in which the blood metabolite level was increased, the metabolite concentration in the fluids varied *pari passu* with the changes in the blood. Pending the contribution of contradictory evidence, it may be tentatively concluded, therefore, that the facts secured by chemical analysis of the blood give an index of the concentration of metabolites throughout the body.

1. Folin, Otto: Non-Protein Nitrogen of Blood in Health and Disease, Physiol. Rev. **2**: 460 (July) 1922.
2. Rypins, Harold: The Distribution of Metabolites in the Blood and Tissues, Arch. Int. Med. **30**: 578 (Nov.) 1922.

SEASONAL VARIABILITY OF DISEASE

It is well known that the frequency, severity and mortality of many diseases vary with different seasons of the year. That acute respiratory infections reach a peak in the late winter months, with a minor peak in the late autumn, is attributed to a lowered local resistance to infection with the unknown virus of "common colds" and the known pathogenic cocci, although as yet we have no satisfactory explanation as to why the exposure to cold lowers the resistance. To be sure, a physical chemist, Schade, would attribute to a decreased dispersion of the tissue colloids on cooling the increased vulnerability to bacteria, but this is pure hypothesis and does not explain how the invading bacteria fail to suffer a correspondingly reduced activity when chilled. In the lower animals, seasonal changes in metabolism are well recognized, such as the hibernation of some species, and the seasonal variation in reproductive activity, as well as the variations in growth of hair, feathers and antlers. Beckmann,[1] in a consideration of the effect of season on disease, attributes the absence of such marked seasonal alterations in man to the fact that with higher development comes a better regulating mechanism against extraneous influences. But even in man there are distinct alterations in metabolic activity at different times of the year. Thus, measurements have shown that in spring the hair grows more rapidly than at other times, while body activity as a whole is lessened in winter, so that the usual amount of time spent in sleep is much increased over the summer sleep among people not too artificially regulated by customs and alarm clocks.

1. Beckmann, Kurt: Jahresschwankungen in der menschlichen Physiologie und Pathologie, Deutsch. med. Wchnschr. **48**: 1409 (Oct. 20) 1922.

Presumably this is related to hibernation in other species. It is said that pulse rate, temperature and respiration are highest in winter, and recently it has been found that the height of the capacity of the blood to bind carbon dioxid is reached with the shortest days of the year. In the spring there is a distinct fall in the carbon dioxid tension of the blood, which implies a decrease in the alkali reserve.

Although these variations are exceedingly small, they gain in the possibility of significance through the fact that they appear at the time of year when most diseases of seasonal variability are making themselves manifest, excluding diseases dependent on such obviously seasonal matters as insect transmission and food supply. Perhaps the reaction change has some influence on the endocrine glands, for there is not a little evidence that hibernation depends on these organs, and the same thing is true of some of the noninfectious diseases that show seasonal variations. For example, Moro found that the incidence of juvenile tetany increases in January and February, rising to a peak in March, and falling nearly to zero in the summer. The galvanic irritability follows a similar curve, and in guinea-pigs a seasonal variation has been found in respect to their sensitiveness to caffein. These facts may be related to the statistical evidence that mental stability may show a seasonal change, for the suicide curve is said to rise in the spring, with a maximum in May or June, in various parts of Europe, despite marked variations in climate. Other mental disturbances follow a similar curve, but in some types with a second rise in the autumn. Hyperchlorhydria is said to show a distinct rise in the spring and autumn, and hyperthyroidism has been placed among the conditions that show such a double curve. The seasonal character of some diseases, such as rickets and certain cutaneous disorders, is explainable on a basis of altered sunlight; with others, the dietary variations are probably responsible. Less clear are those conditions that exhibit a frequency peak in both spring and autumn, among which, besides those mentioned above, Rusznyák [2] lists not only the acute respiratory and throat infections, but also tuberculosis, nephritis and rheumatism, as well as the neuroses, which often have a higher peak in autumn than in spring. This author suggests that the change from winter to summer, or from summer to winter, arouses an adaptive mechanism, the activity of which produces a condition of instability during these transition periods, and hence pathologic conditions become more conspicuous until seasonal adjustment is completed. As yet there can be said to be no approach to a solution of these problems, which so far have not received much consideration as the important factor in human disease which they apparently are. Evidently, in large part, they depend on external influences; but their periodicity does not always correspond to these, and therefore it is probable that some internal influence also is involved, as in the hibernating animals, which do not awake completely if brought into a summer temperature, but continue for some time to manifest the lowered metabolic activity that characterizes their sleeping period.

2. Rusznyák, Stefan: Krankheiten und Jahreszeiten, Wien. Arch. f. inn. Med. 3: 379, 1922.

PROPOSED LEGISLATION REDUCING FEDERAL NARCOTIC TAX

Through the efforts of the Bureau of Legal Medicine and Legislation of the American Medical Association, and with the cooperation of Dr. John J. Kindred, a fellow of the Association and the representative in Congress from the Second New York Congressional District, a bill has been introduced for the reduction of the tax imposed on physicians and certain related professional groups by the Revenue Act of 1918, to the merely nominal amount, one dollar a year, originally provided in the Harrison Narcotic Law.

The Harrison Narcotic Law was enacted in the discharge of international obligations the United States government had assumed, looking toward the control of the traffic in habit-forming drugs. It took the form of a tax measure, not because of any intention on the part of the government to make the traffic in such drugs a source of revenue, but because in no other way could the federal government obtain the control it had obligated itself to assume. In the execution of the project, it became necessary to obtain jurisdiction over the physician, as one of the agencies through which habit-forming drugs are distributed, and for that purpose alone a nominal tax was imposed. To this, no objection was raised; it was looked on by the profession as a step necessary in the fulfilment of an international obligation, and was accepted accordingly.

When the Revenue Act of 1918 was framed, the United States had incurred a large indebtedness on account of the World War. New sources of revenue were being sought, and taxes already established were being increased; and in the course of its search for increased income, Congress amended the Harrison Narcotic Law, and trebled the tax. Then the tax ceased to be a mere incident to the discharge of certain police duties voluntarily assumed by the federal government, and became nothing more or less than an occupation tax. There was no more reason for imposing an occupation tax on the physician than for imposing such a tax on the lawyer, the architect, and on other professional and vocational groups, except that opportunity was given through the tax already imposed. But it was a war-time measure, and the medical profession, which as a body had probably already contributed proportionately more of its resources to the country's defense than had any other group, hesitated to enter complaint.

The war has been over now for more than four years, and during that time the Revenue Act of 1918 has been revised. Still the three dollar tax is being collected, and it will be collected until Congress other-

wise directs. On the face of the law, the tax is small; in the aggregate, it is not. The records of the Treasury Department do not permit a statement of the amount paid by physicians alone, but from the medical group —comprising physicians, dentists and others engaged in the practice of the healing arts—and from hospitals, in the fiscal year 1922 there was collected $573,413.84.

The imposition of this tax on the practice of medicine cannot be justified on the ground that the revenue is necessary to pay the cost of enforcing the law. The law is for the general good, and there is no reason why the physician should defray any greater share of the cost of enforcement than is paid by others. Moreover, the taxes collected under the law are largely in excess of the amount expended for its enforcement; for the amount collected during the fiscal year 1922, from all sources, was, according to the annual report of the Commissioner of Internal Revenue, $1,269,039.90; and the cost of enforcing the act was but $658,728.77. Even if a liberal allowance is made for overhead and incidental expenses of enforcement, not included in the cost as officially stated, it seems safe to say that the United States, during the fiscal year 1922, under the Harrison Narcotic Law alone and to the exclusion of all receipts from customs revenues on narcotic drugs, realized a half million dollars net profit.

On no sound, discoverable basis can the present tax of three dollars a year on physicians, under the amended Harrison Narcotic Law, be justified. To the extent that the tax is in excess of the minimum necessary to give the federal government jurisdiction over the physician as an agency engaged in the distribution of habit-forming drugs, it is an occupation tax, unjustly discriminating against the medical profession and the allied groups subjected to its exactions. It is for the physicians of the country to see that the tax is discontinued, or at least reduced to the amount named in the original law, one dollar a year: if not by this Congress, then by the next.

DAVID HARUM: MONUMENT TO A PHYSICIAN

One of the literary events of the year, the celebration of the twenty-fifth anniversary of the publication of "David Harum," one of the most popular novels of the last century, has a particular interest for physicians. Its author was the son of a physician; indeed, the quaint character David Harum was a reflection of Dr. Amos Westcott, the author's father. Dr. Westcott was well known as a physician as well as one of the most conspicuous citizens of Syracuse, N. Y., during the mid-nineteenth century. Incidentally, he was the honored and respected mayor of that city during part of the Civil War. Moreover, Edward Noyes Westcott wrote the book while dying of tuberculosis, and would probably never have had the chance to demonstrate the fact that he had the literary power that he possessed except for the enforced leisure that his disease compelled him to take. He had previously been a teller in a bank. When he had to give up work and live outside, he had much time for thought, and the book "David Harum" shaped itself in his mind. In spite of the suffering from laryngeal tuberculosis, which complicated his lung condition and which must have added greatly to the difficulty of writing, he succeeded in getting the manuscript written.

The fact that the book was different, which eventually gave it widespread popularity and immense sale, proved a handicap as regards its acceptance. The manuscript was sent to publisher after publisher, who refused it, usually with a formal note of declination. It is easy to understand how discouraging this must have been for a man who knew that he was seriously ill, and who, in spite of the hopeful attitude, *spes phthisica*, characteristic of his affection, must have had more than an inkling of the fact that his end was probably not far off. Undaunted, he kept on readdressing the manuscript, giving it certain touches at each new rejection, and finally, in January, 1898, it was accepted by Appleton. The cordial words of praise which accompanied the acceptance of the manuscript proved a wonderful tonic. As the author himself said, "They were more welcome than any gift I could have received." It is not surprising that just after this his health seemed to improve, though he was in the last stages of the disease, and the laryngeal complication was making life miserable.

He died without having seen a copy of his book in print. His friend and biographer, Forbes Heermanns, commenting on the possibility that Westcott did not in any way even suspect the wonderful popularity that "David Harum" was to have, cannot help but find a hint of his hopes with regard to it from certain passages in the book itself. He knew enough about life, however, to appreciate thoroughly that romantic anticipations are seldom realized, and that life has at least as many disappointments as fortunate events. Not a few of these are due to the fact that the good things of life do not come in on time. As his biographer said, "Yet when we read in Chapter XLVII his own words 'Many of the disappointments of life, if not the greater part, come because events are unpunctual, they have a way of arriving sometimes too early, or worse, too late'; their pathetic significance is now profoundly impressive."

Even had his book never been published, it is probable that it would have been well worth while for Edward Westcott to write it. No one, probably, would have appreciated this fact better than did the author of "David Harum," for it was his memories of his father, the old-fashioned physician whose patients were his friends and neighbors and whose knowledge of human nature was almost more valuable to him in his practice than his knowledge of medical science, that he recalled for the book. Contact with that father physician must have made the author of "David Harum" realize clearly the value of not allowing the "blue devils" of discouragement to add to his discomfort, decrease his resistive

vitality, and make life much more miserable than even his disease was making it. The author wrote to his publishers, "I have lived with and among the people I have written about. My father was 'born and raised' on Buxton Hill; and a great many of David's peculiar figures and sayings were constantly popping out in my father's diction."

It is this that would make "David Harum" worth the reading by the modern physician now after twenty-five years. Many of the expressions used by the hero smack of the old-fashioned country practitioner whose wisdom so often enabled him to do so much more in his duties as a physician to his patients, than the knowledge of the modern, ever so much better educated scientific physician of our day helps him to accomplish. "Knowledge comes, but wisdom lingers." His wisdom enabled old Dr. Westcott to perform very satisfactorily the three duties dependent on a physician, to cure whenever he could, though that might be rarely enough, to relieve nearly always, even with the meager means at his command, but to console always and give his patients new spirit and vital resistance. As a result of this there are some interesting anticipations of ideas in medicine that are supposed to be the latest things in practice.

Typical examples are not hard to find. David Harum's expression, "You want to change your feed once in a while or you may git the colic," is one instance. It pleads for variety in diet quite as strongly as the modern expert in physiologic chemistry would insist on it. One can just imagine the old country doctor who might not have known very well what was meant by psychotherapy and might have shied at mental suggestion or the necessity for diversion of attention, but who felt in his bones as the result of experience that "A reasonable amount of fleas is good fer a dog—keeps 'em from broodin' over bein' a dog, mebbe." Only the doctor habit of mind would have supplied such a figure as that contained in his reference to his stepmother: "'T wa'n't so much slappin' an' cuffin' with her as 't was tongue. She c'd say things that'd just raise a blister like pizen ivy." Surely the physician who had had large experience among the poor would be the one above all to formulate that ancient biblical expression in such modern familiar language as brings it home to every one, "Them that has, gits."

The last, but not the least interesting, feature for physicians is that of course his old-fashioned physician father left him no money to speak of, and whatever little savings had been made from the moderate salary of a bank teller in those days were exhausted by the lingering illness and the necessity for special care with its attendant expense. He left his family little at his death, but the sale of his book proved a continued source of income that put them in independent circumstances.[1]

1. The book still sells rather well, and the publishers are bringing out an illustrated edition this year for the twenty-fifth anniversary, which will doubtless add distinctly to the sales record, though some 1,500,000 copies have been sold.

Current Comment

THE VISIT OF M. COUÉ

Emile Coué, druggist of Nancy, France, has come and gone, heralded and accompanied by a campaign of advertising which has rarely been equaled, making promises of hope to the helpless and afflicted. His visit to Chicago gave the opportunity to hear M. Coué and to observe his methods. The man himself gave an impression of sincere, though naive, earnestness. He seemed childishly pleased with the testimonials he had received, and genuinely convinced that he had made a discovery of great benefit to mankind. Of the many cults that have grown up around such methods of healing, this appears to be the first that has not been erected on a religious basis with more or less specific claims of Divine inspiration, a lack of the mystical which will probably result in speedy oblivion. Coué was careful to insist that he is not "a healer" or "miracle worker," and protested against the demands that he exhibit his powers: demands that were an inevitable result of the publicity he has received. M. Coué claimed that much of human suffering and disability is psychic in origin, the outcome of faulty thinking. All that is necessary for its relief is a change in the mode of thought. This can be achieved by the persistent and insistent repetition of a formula, which disavows the trouble. He acknowledged that some things cannot be changed, as for example the loss of a leg, and that it is useless to attempt "the impossible." However, despite the protestations that he will not attempt "the impossible," Coué frequently finds it "impossible" only when he fails. One of the patients subjected to "treatment" at the Chicago meetings was an elderly woman, emaciated, feeble, short of breath, and with every appearance of cardiovascular disease. This poor woman was urged, stimulated and encouraged to walk vigorously, even to run. Under the stimulus of the excitement, she succeeded temporarily by the exercise of every reserve of energy, and after having served the purpose of this ruthless demonstration, retired from view, to sink panting and exhausted in a chair. No more serious result was evident, but risks had certainly been taken without thought to the possible dangers, which were obvious to any physician. The atmosphere of the Coué demonstration contained much to recall the vaudeville hypnotist, now almost extinct; the magic words, the mesmeric passes and even the old parlor trick of suggesting to members of the audience that they could not separate their hands, after they had pressed them tightly together, all bring back memories of the professional hypnotist. Had it not been for the pathetic background of the crippled, deformed and disappointment-doomed dupes that filled the stage, the scene would have been humorous. The methods and theory with which Coué works are as old as history. Nancy, the town from which he came, was the home of a school of scientific hypnotism, under the leadership of Liébeault and Bernheim, which was famous in the sixth and subsequent decades of the last century. It is an error to assume that physicians have ignored such merits as do underlie these practices. The abrupt relief of hysterical symptoms by suggestion

and persuasion is a commonplace in the practice of the average physician. Suggestion has a distinct place in therapeutics; unconsciously, it is used by every successful physician in the form of encouragement and optimistic prediction. It is the basis of Eddyism. But suggestion, while it may, and often does, give temporary relief, does not cure; it must be accompanied by investigation and remedy of the underlying causes, whether psychic or physical.

THE WEIGHT OF CHILDREN

At present, it would assuredly be a rash venture to attempt to set up what might be called ideal standards of nutrition in children of school age. The child welfare programs involve the acceptance of some index of physiologic well-being, but the experts are not yet in accord as to how the latter shall be formulated. Without debating the wisdom or accuracy of the procedure, it must be admitted that the factor most generally used today is the weight of a given child compared with the average weight of children of the same sex, age and height, allowing 7 to 10 per cent. deviation from this standard as normal variation. Children below this standard are classed as underweight and presumably as not physically fit. Weight is so easily measured, and its fluctuations can so readily be grasped, that it has naturally been used as a guide to hygienic procedures and corrective measures.[1] The field investigations in child hygiene conducted by the U. S. Public Health Service[2] on nearly 10,000 schoolchildren from 6 to 16 years of age, inclusive, in South Carolina, Virginia, Maryland, Delaware and New York State indicate some of the limitations which the estimate of physical fitness involves. They show that although, on the average, the children of poorer nutrition weigh less than those of better nutrition, weight alone does not seem to be sufficient for determining the nutrition of a given child. In order to pick out individual cases of poor nutrition, a physical examination by a trained physician should supplement physical measurements. The observations of the government experts indicate that the percentage of children who were "fair" or "poor" in nutrition, as judged from clinical evidence, varied with age, increasing in the 6 to 8 age groups and then declining in succeeding age groups. No significant difference in this respect appeared between boys and girls. The percentage of children who were underweight (10 per cent. below) and the percentage who were overweight (20 per cent. above), as judged by Wood's table of weight for sex, age and height, increased as age increased through the fourteenth year for girls and through the sixteenth year for boys. Girls showed a constantly higher percentage of underweight and a consistently higher percentage of overweight than boys. If average weight is to be used as even a rough index of nutrition, it seems that the percentage deviation allowed for normal variation from the average should vary for different sexes and ages rather than be a constant 7 or 10 per cent., as usually employed in school health work.

1. See, for example, the program of the Bureau of Educational Experiments in Hunt, J. L.; Johnson, B. J., and Lincoln, E. M.: Health Education and the Nutrition Class, New York, E. P. Dutton & Co., 1921.

2. Clark, Taliaferro; Sydenstricker, Edgar, and Collins, S. D.: Weight and Height as an Index of Nutrition, Pub. Health Rep. **38**: 39 (Jan. 12) 1923.

Association News

BOARD OF TRUSTEES

Minutes of a Special Meeting Held at the Association Headquarters, Thursday, February 1, and of the Regular Annual Meeting Held Friday, Feb. 2, 1923

The meeting was called to order at 10:30 a. m. There were present: Drs. Dowling (Chairman), Billings, McDavitt, Mitchell, Phillips, Brown, Williamson, Richardson and Sarles of the Board; the President, Dr. George E. de Schweinitz; the President-Elect, Dr. Ray Lyman Wilbur; the Speaker, Dr. Frederick Warnshuis; the Treasurer, Dr. Austin Hayden; the Secretary, Dr. Olin West; and the Editor and General Manager, Dr. George H. Simmons.

The Chairman announced that a special meeting was called the day preceding the annual session of the Board to afford sufficient time for the consideration of the annual report of the General Manager for the year 1922 and of other business, and to make a general inspection of the work and requirements of the headquarters and the new additions to the building.

The General Manager presented his annual report, which was accepted by the Board with the understanding that those parts including recommendations which require the action of the Board shall be referred to the appropriate committees for consideration and report to the Board on February 2, the date of the annual meeting.

The Chairman appointed Drs. Phillips, Williamson and Richardson a Committee on Elections to fill vacancies on the Council on Pharmacy and Chemistry and on the editorial boards of the special journals.

The General Manager, in his annual report, recommended that at the end of the current year the annual dues and subscription be restored to the former price—$5. The Board decided to incorporate this recommendation in its annual report to the House of Delegates.

MEMORIAL TABLETS

Dr. George E. de Schweinitz, chairman of the Special Committee on Memorial Tablets, presented a report which was signed by all members of the Committee. Inasmuch as the Committee expressed the opinion that a memorial tablet naturally would be placed in the assembly room of the new addition to the building, the Committee requested its report to be considered one of progress. The report of the Committee was ordered received, with the understanding that the Board will include in its annual report to the House of Delegates a statement to the effect that arrangements have been made to fulfil the request made by the House to establish at headquarters a suitable memorial tablet to the late Dr. Joseph N. McCormack; but that it will be necessary to postpone its placement until the new addition to the headquarters shall have been completed.

GROUP INSURANCE

The question of applying industrial group insurance to the employees of the Association at headquarters, the expense to be borne by the Association, was discussed. The general plan was referred to the Finance Committee for further investigation and study. The fact was brought out that the Association has 320 employees at headquarters, forty-six of whom have been with the Association for from ten to twenty-five years.

REPORT OF THE COMMITTEE ON ELECTIONS

The committee recommended the following named individuals to succeed themselves on the Editorial Boards of the special journals, in which the Board concurred:

Dr. W. S. Thayer, *Archives of Internal Medicine.*
Dr. H. F. Helmholz, *American Journal of Diseases of Children.*
Dr. T. H. Weisenburg, *Archives of Neurology and Psychiatry.*
Dr. W. T. Corlett, *Archives of Dermatology and Syphilology.*
Dr. Hugh Cabot, *Archives of Surgery.*

Drs. R. A. Hatcher of New York and W. T. Longcope of Baltimore were elected to succeed themselves, as members of the Council on Pharmacy and Chemistry, and Dr. A. N. Richards of Philadelphia was elected to succeed Dr. Hewlett of San Francisco, who expressed the desire that he be not reelected.

Bureau of Legal Medicine and Legislation

Dr. Woodward, the Executive Secretary of the Bureau, made a report covering the work done since the organization of the Bureau. The report covered the following subjects: the availability of bottled-in-bond whisky for therapeutic purposes; protest against regulations governing therapeutic use of whisky; probationary period for physicians in new locality before permission is given to prescribe whisky therapeutically; reduction of tax under the Harrison law; amendments to narcotic regulations; safeguarding professional secrecy; liability of state medical associations for federal income tax upon accumulated funds; deductibility by physicians of expenses incident to attending medical meetings; the status of legislation on animal experimentation; present status of chiropractic training of disabled veterans under the federal Veterans' Bureau; reclassification bill for physicians in the Indian service; reorganization of federal health activities; medical defense; cooperation of the Bureau with constituent associations; meetings of state legislatures, etc.

The report of Dr. Woodward was fully discussed and ordered placed on file. Dr. Woodward was unanimously commended on the good work accomplished.

American Red Cross

The Secretary of the Board announced the present membership of the Medical Advisory Committee of the American Red Cross as appointed by the Chairman of the Central Committee of that organization: Drs. William H. Welch (Chairman), Baltimore; Herman M. Biggs, Albany; Thomas S. Cullen, Baltimore; Hugh S. Cumming, Washington; Livingston Farrand, Utica; Franklin H. Martin, Chicago; Fred B. Lund, Boston; George M. Piersol, Philadelphia; John H. J. Upham, Columbus, Ohio, and C. E. A. Winslow, New Haven. The Board was informed that the Advisory Committee was at present engaged in the formulation of a proposed public health program for the American Red Cross.

Hygeia

Dr. Victor C. Vaughan, Editor of *Hygeia*, made a report of progress, which was unanimously approved by the Board.

Scientific Exhibit

Dr. D. Chester Brown, chairman of the Committee of the Board on Scientific Exhibit, and Dr. Leech, who has charge of the Bureau on Scientific Exhibit at headquarters, presented a report on the arrangements made for the Scientific Exhibit, including the lantern slide moving picture theater for the San Francisco session. There was every indication of close cooperation of the sections on scientific work with the Scientific Exhibit. This report was received and approved.

Diagnostic Clinics at the San Francisco Session

The Secretary of the Board reported that arrangements had been completed with the Local Committee of Arrangements for the San Francisco session for diagnostic clinics to be given on Monday and Tuesday, June 25 and 26. The tentative plans called for seventy-two clinics in twelve hospitals of San Francisco and Oakland during the two days. California clinicians will give one half of the clinics, and visiting clinicians from various states, and possibly from abroad, will give one half.

Health Exhibit

Dr. D. Chester Brown made a further report upon the proposition to hold a health exhibit at San Francisco during the annual session. This subject had been discussed at the meeting of the Board held in November last, and at this time more definite information upon the subject influenced the Board to decide not to attempt a health exhibit at San Francisco, and that the subject of health exhibits at future sessions of the Association be referred to the Council on Health and Public Instruction with the Board's approval for instituting health exhibits as a part of its work.

The Board adjourned at 6:15 p. m. to meet at 9 a. m. Friday, February 2.

The Annual Meeting of the Board of Trustees

The annual meeting of the Board of Trustees was called to order at 9 a. m., February 2, by the chairman, Dr. Dowling. There were present all members of the Board, the President, the President-Elect, the Speaker of the House, Treasurer, the Editor and General Manager, and the Secretary of the Association.

The minutes of the special meeting held on Thursday, February 1, were read, and by resolution all of the business performed and decisions made by the Board at the special meeting on February 1 were made official as of this date.

Abstracting Reports Contained in the Handbook for Presentation to the House of Delegates

The Secretary of the Board called attention to the feasibility, practicability and economy of time which would be gained by abstracting or condensing the official reports of the Councils and other committees and of the Board of Trustees which are printed in full in the Handbook, so that the salient features and recommendations contained in the several reports may be presented more effectively to the House of Delegates. In this connection, attention was called to the fact that last year the printed Handbook was completed and forwarded to all officers, all known members of the House of Delegates, section officers and others from two to three weeks before the date of the meeting of the annual session in St. Louis. This year the Handbook will be placed in the hands of these officers from two to three weeks before the annual session at San Francisco. This will enable every holdover member of the House of Delegates and every newly elected delegate whose address is forwarded to Association headquarters in time to permit a copy to be mailed to him, to acquaint himself with the business of the Association as represented in the reports contained in the Handbook.

The Board unanimously approved of the adoption of abstracting reports contained in the Handbook for presentation to the House of Delegates.

The Speaker announced that he had addressed a letter to each member of the House of Delegates asking for constructive criticism, suggestions or recommendations regarding the methods of carrying on the business of the House and other details. In connection with this statement he suggested that the Board empower the Executive Committee to cooperate with the Secretary and other officers of the Association to collect and bring outstanding valuable suggestions received from these sources into practical application at the San Francisco meeting. The Board unanimously concurred in the request of the Speaker.

The usual appropriations were made.

The Board adjourned, to meet at the Palace Hotel in San Francisco on Saturday afternoon, June 23.

Frank Billings, Secretary.

THE SAN FRANCISCO SESSION

Convention Diagnostic Clinics and Postconvention Diagnostic Clinics

A resolution governing the selection and conduct of diagnostic clinics was unanimously passed at the regular meeting of the Central Committee of Arrangements, Jan. 22, 1923. The resolution was as follows:

Having heard read the correspondence between Dr. Frank Billings, secretary of the Trustees, American Medical Association, and Dr. W. E. Musgrave, chairman of the California Committee of the American Medical Association Convention, regarding diagnostic clinics, to be held in San Francisco and Oakland, June 24 and 25, to be known as Convention Diagnostic Clinics, and in Los Angeles and other sections of California, July 2 and 3, to be known as postconvention clinics, the Central Committee unanimously approves the plan of conducting said clinics, and the following policy

outlined for these clinics, submitted by the general chairman, Dr. W. E. Musgrave:

1. The chairman of the committee, after consultation with the accredited hospitals or with county medical societies, will appoint a sub-subcommittee on Diagnostic Clinics for each hospital, accredited by the Council on Medical Education and Hospitals of the American Medical Association, of San Francisco, Oakland, Los Angeles and other cities of California which comply with the conditions governing these diagnostic clinics.

2. Each of these sub-subcommittees shall consist of three members of the staff, one representative of the directorate and one of the administration of the hospital. A staff member shall be chairman.

3. The chairman of all these sub-subcommittees shall form ex-officio the Subcommittee on Diagnostic Clinics. The chairman of the Central Committee shall appoint a chairman of the subcommittee, who shall thereby become ex-officio a member of the Central Committee.

4. The Subcommittee on Diagnostic Clinics, working through the Executive Committee, shall cooperate with the Trustees of the American Medical Association in conducting diagnostic clinics in connection with the American Medical Association Convention under the following procedure:

(*a*) The hours from 10 a. m. to 1 p. m. of Monday and Tuesday, June 24 and 25, shall be designated Convention Diagnostic Clinic Periods in each of the cooperating hospitals in San Francisco and Oakland.

(*b*) The same hours on the following Monday and Tuesday, July 2 and 3, shall be Postconvention Diagnostic Clinic Periods for the cooperating hospitals in Los Angeles and other sections of California.

(*c*) The Diagnostic Clinic Period in each hospital shall be divided into three clinics of one hour each.

(*d*) One clinic will be conducted by a member of the California Medical Association, one by an invited Fellow of the American Medical Association, and one will be a combined clinic given by a California physician and a visiting Fellow.

(*e*) The California physicians giving clinics shall be selected by the sub-subcomittee from each hospital and appointed by the chairman of the Central Committee.

(*f*) All visiting Fellows giving clinics shall be approved by the Trustees of the American Medical Association. The sub-subcommittees of the cooperating hospitals may correspond with the secretary of the Trustees of the American Medical Association in securing visiting Fellows whom they desire to have conduct clinics for their hospitals.

(*g*) The program of the various clinics shall be prepared with proper regard for available facilities, the wishes of the local committee of each hospital and the desires of the Trustees of the American Medical Association.

(*h*) The preparation of the program, arrangements with physicians to conduct it, securing an audience and all local arrangements, conveniences and facilities to insure the success of each clinic, are responsibilities of each hospital committee. The facilities of headquarters are open to all committees.

(*i*) County societies and other approved medical organizations in any part of California, and Fellows of the American Medical Association who desire to participate in the Convention Diagnostic Clinics of June 24 and 25 or the Postconvention Diagnostic Clinics of July 2 and 3, are invited and urged to communicate with California Convention Headquarters of the American Medical Association, 805-809 Balboa Building, San Francisco.

Gumma of Heart.—Gummata of the heart are probably much more frequent than even many pathologists think, probably for the reason that they are usually of relatively small size. Diffuse areas of extensive fibrosis may have been originated as a gumma which had absorbed to some degree under healthy condition or as a result of a certain degree of treatment for the specific infection and that the resulting fibrosis really in some instances represents a resorbing or healing gumma.—Harlow Brooks, *Am. J. Syphilis* **5**:224, 1921.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST: SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ARIZONA

Ground for Hospital Broken.—Ground was broken recently for the new city isolation hospital to be erected in Tucson at a cost of approximately $18,000. The new building will accommodate from sixty to seventy patients.

CALIFORNIA

Summer Work at Stanford University.—From July 1 to October 1, properly qualified graduates in medicine and surgery, either graduates of Stanford University or of other schools, are invited to participate in medical and surgical work, including specialties, in the capacity of special workers at Stanford University Medical School, San Francisco. The workers will be expected to assist in the diagnosis and treatment of disease in the outpatient departments, laboratories and wards. Opportunity to make special studies of clinical and laboratory problems will be offered in certain subjects. The minimum period of attendance will be four weeks and a registration fee of three dollars will be charged. Applications, which should give an outline of the medical experience of the applicant, should be sent to the Dean, 2398 Sacramento Street, San Francisco, before June 1.

CONNECTICUT

Personal.—Prof. George C. Whipple, Harvard University, New Haven, gave four lectures on "The Philosophy of Sanitation," January 6, 13, 20 and 27, at the Wagner Free Institute of Science.——Prof. Marston T. Bogert, professor of chemistry at Columbia University, New York, gave a lecture at the Connecticut College for Women, New London, January 23, on "Synthetic Dyestuffs and Their Bearing on the Life of the Individual and of the State."

Yale University News.—A course of eight lectures on the social aspects of mental hygiene will be given by a group of specialists under the auspices of the department of social and political science of Yale University, and the New Haven Council of Social Agencies. President Angell will act as chairman at the first lecture, which will be given by Clifford W. Beers. Dr. O. G. Wiedman, medical director of the Connecticut Society for Mental Hygiene, and Dr. Paul Waterman, chairman of the state psychopathic hospital commission, will preside at the other lectures. The following subjects will be discussed: "The Mental Hygiene Movement," Mr. Beers; "The Mechanism of Human Behavior," Dr. Frankwood E. Williams, editor of the *Mental Hygiene Quarterly;* "Mental Hygiene and Personal Health," Dr. Thomas W. Salmon of the Rockefeller Foundation; "Mental Hygiene and Education," Dr. C. Macfie Campbell, director of the Boston Psychopathic Hospital; "Mental Hygiene and the Family Life," Dr. Abraham Myerson, Tufts Medical College; "Mental Service for Children," Dr. Arnold Gesell, professor of child hygiene, Yale University; "The Feebleminded in the Community," Dr. Walter E. Fernald, superintendent of the Massachusetts School for the Feebleminded, and "Mental Hygiene in Social Work," Dr. Jessie Taft, director of the department of child study, Children's Aid Society of Philadelphia.——The Yale Engineering Association at a recent meeting announced that it will raise funds for the erection of buildings at the summer camp of the Sheffield Scientific School of Yale University at East Lyme.——It was announced, January 16, by Dean Winternitz of the Yale Medical School, that additional building plans recently adopted call for a new pediatric pavilion, a modern dispensary situated in the center of the hospital plant, rehabilitation of the Gifford ward and extension of the south ward for women at the New Haven General Hospital, which is now part of the medical school plant.——In connection with the curriculum the method of assigning students of the third year to the outpatient clinic and the seniors to the wards has been reversed. The development of psychiatry into a section of work, coordinate with the sections of medicine, surgery, diseases of women and pediatrics, is in progress.

DISTRICT OF COLUMBIA

Vaccination to Be Enforced.—It is announced by Dr. William C. Fowler, District health officer, that all children entering schools for the second term must be vaccinated. Vaccination for smallpox is compulsory, but typhoid and paratyphoid inoculations will be made on request of the parents.

Howard University News.—The *Howardite*, a publication issued for graduates of Howard University School of Medicine, Washington, announces that the sum of $25,000 has been pledged by the students and a like sum by the administration, trustees and faculty of the university in the campaign to raise $250,000 by July 1, in order to receive the same amount from the General Education Board for the school of medicine.

ILLINOIS

Revised Influenza Rules.—A revised edition of rules and regulations relative to the reporting and handling of influenza cases has been published by, and are available for distribution from, the state department of public health, Springfield.

Hospital News.—The American Hospital at Johnston City was formally opened to the public recently. Dr. Fred Greenbaum, West Frankfort, has been appointed superintendent. ——A hospital, to be known as the Roseland Community Hospital, will be erected in that city at a cost of about $500,000.

Demonstration in Medical Inspection of Schools.—Dr. Edith B. Lowry of the U. S. Public Health Service has been assigned to direct a demonstration in the medical inspection of schoolchildren at Elgin. The demonstration was undertaken at the request of the local superintendent of public schools. The local board of health and the state department of public health are cooperating in the project.

Mental Hygiene Conference.—The Illinois Society for Mental Hygiene held a conference in Chicago, February 14-16, in conjunction with the Chicago Medical Society and the Chicago Neurological Society. Among the speakers were Judge Victor F. Arnold of the juvenile court of Chicago; Drs. Hugh N. MacKechnie, president of the Chicago Medical Society; Arnold L. Jacoby, director of the Municipal Psychopathic Clinic, recorders court, Detroit; Archibald Church, professor of neurology, Northwestern University Medical School; Bird Baldwin, Ph.D., director of the Child Research Station at the University of Iowa, and Frank Billings, president of the Illinois Society for Mental Hygiene.

Chicago

House of Correction Issues Report.—A report has just been issued covering the first fifty years of service of the House of Correction. A special section is devoted to the medical department. In this section of the report, methods of handling alcoholics, drug addicts and defectives are given special attention.

New Orthopedic Society.—At a meeting of orthopedic surgeons at the University Club, Chicago, February 2, the Chicago Orthopedic Club was organized. Dr. John Ridlon was elected president; Dr. Edwin W. Ryerson, vice president, and Dr. Henry B. Thomas, secretary-treasurer. Meetings are to be held monthly.

Hospital News.—Nearly 90,000 people passed through the receiving wards of Cook County Hospital during 1922. About 37,000 were admitted as patients, 21,000 were treated at the dispensary and about 28,000 were rejected according to the annual report. Clinics for patients with heart disease were established during the year. The charity ward gave out 200,000 garments to needy persons, a service which cost the county nothing.——A new 150-bed hospital will be erected by Dr. B. L. Ramsay of the Austin Hospital Association, at Central Avenue and Flournoy Street, Austin.——Plans have been drawn for a $350,000 addition to the Washington Boulevard Hospital.——Excavation work has been started for the $50,000 addition to Jefferson Park Hospital, Chicago.

Personal.—Dr. Wilson B. Moody, Chicago, has been appointed resident pathologist at the Methodist Hospital, Omaha.——Dr. B. Barker Beeson, Chicago, has been appointed associate professor and acting director of the division of dermatology and syphilology at Loyola University School of Medicine, Chicago; also dermatologist to the Mercy Hospital.——Dr. Peter S. Winner, assistant superintendent of the Peoria State Hospital, has been appointed superintendent of the Municipal Tuberculosis Sanatorium, Chicago, to succeed Dr. Allen J. Hruby.——Dr. Peter Bassoe, professor of neurology at Rush Medical College, gave a lecture on "Modern Treatment of Epilepsy" before the Elkhart County Medical Society at Goshen, February 1.——Dr. A. J. Carlson addressed the members of the Peoria City Medical Society, February 6.

INDIANA

Large Fine for Physician.—It is reported from Fort Wayne that Dr. James W. Squires of that city, 68 years old, was fined $1,000 and costs, February 1, when he pleaded guilty to violations of the Harrison Narcotic Law.

All-Time Health Officer Bill Fails.—The all-time health officer bill introduced by Dr. John N. Hurty of Indianapolis, which provided for reorganization of the state board of health and the employment of a health officer in each county to devote full time to the work, was defeated in the legislature, February 3, it is reported.

Hospital Cornerstone Laid.—The cornerstone of the new administration building and nurses' home, which are under construction at the Indianapolis City Hospital, at a cost of $425,000, was laid on the afternoon of December 23. Following the exercises, a clinic was held by Dr. Vilray P. Blair of Barnes Hospital, St. Louis.

IOWA

Personal.—Dr. Eula Eno, Des Moines, sailed recently for China, where she will serve as a medical missionary.——Dr. Asaph Arent, Humboldt, has been appointed county coroner to succeed Dr. H. C. Doan, deceased.——Dr. Carl H. Carryer, Des Moines, has been reappointed physician of Polk County. ——Dr. R. C. Milison, Marshalltown, has been appointed city physician to succeed the late Dr. J. F. Battin.——Dr. Don Griswold, professor of hygiene, State University of Iowa College of Medicine, gave an address on "Communicable Diseases Among School Children" at the Teachers' Institute, at Clinton, recently.

KANSAS

Personal.—Drs. Melvin C. Martin and Frank L. Abbey were elected president and secretary, respectively, of the Harvey County Medical Society, at the December meeting.——Dr. Harry R. Bryan, La Crosse, has been appointed health officer of Rush County.——Dr. F. Akin Garvin, Augusta, was recently reappointed health officer of Butler County.——Drs. Thomas L. McCarty, Dodge City, and Walter F. Pine, Dodge City, were elected president and secretary, respectively, of the Ford County Medical Society at the annual meeting.

Tuberculosis Colony.—January 22, Dr. S. J. Crumbine, secretary of the state board of health, inspected the site of the new tuberculosis colony to be established in Kansas City, under the auspices of the city health department. It is planned to erect ten buildings for tuberculous patients on a 21-acre tract just outside the city limits. Construction work will be commenced as soon as the old buildings on the site have been torn down. Lodges and clubs of the city will furnish the one-room cottages, and fresh milk and eggs for the tuberculous patients will be supplied by the city.

KENTUCKY

Hospital News.—The County tuberculosis hospital at Henderson was reopened, January 17. The hospital, which was formerly for tuberculous patients only, has been thoroughly remodeled and furnished with new equipment.

MAINE

New Hospital Opened.—The Bradbury Memorial Hospital, Belfast, was formally opened to the public, December 25. It is a $50,000 structure, the main building of which is the old Charles Bradbury homestead. A 90-foot addition, three stories high, enlarged the residence. Several memorial rooms and the roentgen-ray equipment were donated by summer residents. A nurses' training school will be maintained in connection with the institution. Free eye clinics will be held once a week, under the direction of Dr. Edwin S. Steese, New York, who has a summer residence at Northport. Dr. Eugene D. Tapley is the physician in charge of the new institution.

MARYLAND

Personal.—Dr. Alexius McGlannan, chief surgeon of the Mercy Hospital, Baltimore, has been appointed consulting surgeon for the Fort McHenry Hospital at Baltimore by Dr. L. B. Rogers, chief medical adviser of the U. S. Veterans' Bureau.

Johns Hopkins Building Program Started.—The new $1,000,000 building for the school of hygiene and public health of Johns Hopkins University is under way. The new structure, to be located at Monument and Wolfe streets, will be of Italian architecture, eight stories in height. Work has been completed on the east wing of the new women's clinic of Johns Hopkins Hospital, and the work of tearing down the west wing, preparatory to the erection of the second half of the clinic, is going on. The new pathologic laboratory of the medical school has been completed. The women's clinic and the pathologic laboratory were erected at a cost of $450,000 each, and the funds for the public health building were supplied by endowment from the Rockefeller Foundation.

Mental Hygiene Clinic to Be Established.—Plans for the establishment of a mental hygiene clinic in Baltimore are being formulated by the board of mental hygiene of Maryland. It is planned to establish at the University of Maryland a department of mental hygiene, which will be conducted as a mental hygiene clinic, where the physicians from the state institutions will be in attendance, enabling them to come in contact with patients suffering from mental disorders in the incipient stages. This clinic will be an intermediate step between the home and the hospitals. It should decrease the number of admissions to the state hospitals and increase the number of discharges and paroles. The cooperation of the University of Maryland is assured, and it now remains to work out the details of operation.

MASSACHUSETTS

Board of Registration in Medicine.—Dr. Samuel H. Calderwood, Boston, has been elected chairman of the state board and Dr. Charles E. Prior, Malden, secretary.

Estate Willed to Harvard.—Under the will of Mrs. Alice H. Plimpton, who died in Norwood, recently, $50,000 is donated to Harvard University, of which $30,000 will go to Harvard College and $20,000 to the medical school.

Hospital News.—John B. Lewis, Boston, has offered his estate in Reading consisting of a large house and several smaller buildings, together with ample grounds, for use as a city hospital.——A group of hospital buildings, made possible by the gift of Miss Amelia Jones, will be erected on the Jones farm in South Dartmouth for crippled children. The first unit of the group to be erected is the hospital proper, which will have a capacity of fifty beds. Later a school and workshop will be provided. The entire project will be carried out by the board of trustees of St. Luke's Hospital.——The state legislature has issued an order directing the department of public health to make a general survey of all tuberculosis work in the state, it is stated, as a result of the introduction into the last session of the legislature of several bills to take over all tuberculosis institutions by the state department of health. The state health commissioner has appointed a special board, of which Dr. Sumner H. Remick is chairman, to carry out the work.

MICHIGAN

Chiropractor Sentenced.—It is reported that F. W. Barkdall, a chiropractor of Big Rapids, was sentenced to serve ninety days in the county jail, and fined $50, at Cadillac, January 28. Following insulting remarks by Barkdall regarding the law, the judge stated that twenty days would be added to the jail sentence if the $50 fine was not paid within ten days.

Influenza Closes Town.—City health authorities of Bessemer have issued strict quarantine orders in an effort to curb the epidemic of influenza now prevailing there. All public and parochial schools, dance halls, skating rinks, moving picture theaters and other public places have been closed for an indefinite period. Social gatherings have been forbidden and no church services will be held.

MINNESOTA

Infant and Maternity Hygiene.—A course of fifteen lessons in the hygiene of maternity and infancy will be offered to the women of the state under the auspices of the division of child hygiene of the state board of health and the extension division of the state university, it is announced. The course will be given to groups of from fifteen to twenty women under the leadership of the county or district nurse, rather than to individuals. On the satisfactory completion of the course, the university will present each woman with a certificate.——The division of child hygiene has prepared an obstetric package that can be used in rural work, containing the minimum of sterile supplies used for delivery in the home. These packages can be prepared at a cost of $2.

MISSOURI

Personal.—Dr. Borden S. Veeder, professor of clinical pediatrics, Washington University School of Medicine, St. Louis, has been named a director of the new American Child Health Association.——Dr. Robert J. Terry, professor of anatomy, Washington University School of Medicine, St. Louis, was recently elected secretary of the anthropological section of the American Association for the Advancement of Science.——Dr. Evarts A. Graham, professor of surgery, Washington University School of Medicine, St. Louis, has accepted an invitation from the California Academy of Medicine, San Francisco, to speak on the "New Phases of Thoracic Surgery."——Dr. George A. McCulloch, Excelsior Springs, suffered fractures of both legs and one arm and internal injuries, January 28, when the automobile in which he was driving was struck by a train.——A banquet was given in honor of Dr. Murray C. Stone and Dr. William R. Beatie, respectively outgoing and incoming presidents of the Green County Medical Society, at Springfield, January 26.

MONTANA

Personal.—Dr. Earl C. Kading, Belgrade, surgeon to the Chicago, Milwaukee and St. Paul and the Northern Pacific railroads, has been appointed chief surgeon of the Pacific liner *Alexandria* plying between San Francisco and Honolulu.——Dr. Daniel L. High, chief of the medical division, U. S. Veterans' Hospital, Helena, addressed the Fergus County Medical Society at the annual meeting. Dr. Harry K. Wilson, Lewiston, was elected president.

NEW JERSEY

Memorial to Dr. Whitenack.—Dr. Carl E. Sutphen is chairman of a committee which will conduct a campaign to raise from $60,000 to $75,000 for the purpose of erecting a wing at the Newark Babies' Hospital, as a memorial to Dr. Miller Royal Whitenack, who died recently from septicemia, incurred while treating a child for throat trouble.

NEW YORK

Scarlet Fever Closes College.—Bates College at Lewiston has been placed under quarantine for scarlet fever. Eight cases have been reported among the students. No further spread of the disease is anticipated.

Bill to License Chiropractors.—A bill to permit the licensing of chiropractors has been prepared for presentation to the New York State Legislature. Two hundred members of the New York State Chiropractic Society have adopted a resolution condemning the recent action of the state board of charities for closing the chiropractic section of the East Side Clinic for Women and Children. The chiropractors claim that absence of a law licensing chiropractors enables charlatans and fakirs to ply an illicit trade in the name of chiropractic.

Rural Health Centers Urged.—The state health department is making more vigorous efforts than ever before to induce the legislature to adopt laws establishing rural health centers. The legislation desired would provide for the establishment of hospitals fully adequate for the needs of smaller communities. These hospitals would be maintained partly by local appropriations and partly by state aid, and also by payments from patients, who would be charged according to their means. Officials of the health department cite figures showing that in 1911 in thirty rural localities there were 1,010 physicians, whereas today there are only 829 physicians, and of this number only twenty-six could be called young men. It is believed that the needs are so serious that opposition to the proposed legislation can be easily overcome.

New York City

Health Welfare Course.—The Washington Square center of New York University opened its first course on "Labor and Employment Management," February 4. Among the subjects to be covered are accident and fire prevention, management of a medical department, the use of emergency hospitals, illness prevention in industrial plants, plant hygiene and sanitation, including consideration of rooms and food for workers, wages and wage systems, employees' representations, profit sharing and life insurance.

Harvey Society Lecture.—The seventh Harvey Society Lecture will be delivered by Dr. Leon Asher, professor of physiology, University of Berne, at the New York Academy of Medicine, February 24. His subject will be "The Building Up of the Organism by Chemical and Nervous Coordination and Regulation." The lecture by Dr. E. V. Cowdry of the Rockefeller Institute of Medical Research on "The Significance of the Internal Reticular Apparatus of Golgi in Cellular Physiology" has been postponed to March 10.

Hospital Notes.—The Bronx Hospital, located at the corner of Fulton Avenue and One Hundred and Sixty-Ninth Street, has enlarged its holdings by purchasing the Bronx branch of the Young Men's Hebrew Association on the west side of Franklin Avenue, between One Hundred and Sixty-Eighth and One Hundred and Sixty-Ninth streets.——The Hospital for the Ruptured and Crippled has bought two four-story houses at 311 and 313 East Forty-Third Street, adjoining its present holdings.——A two-story fireproof building is being added to the House of St. Giles the Cripple at Garden City, L. I., at a cost of $50,000. The new structure will provide accommodations for sixty children.——The Samaritan Hospital, Brooklyn, has under construction a six-story building adjacent to the present hospital building and replacing a part of that structure. The new building will cost about $200,000.——The new wing to Roosevelt Hospital, which when completed will cost $1,000,000, is in the process of construction.

NORTH CAROLINA

Physical Education Course.—The North Carolina College, Greensboro, has adopted a four years' course in hygiene and physical education to meet the demand for trained directors in physical education throughout the state.

Hospital News.—The North Carolina Orthopedic Hospital for Crippled Children, Gastonia, has received as appropriation from the government of $25,000 for improvements, and $65,000 annually for the next two years for maintenance. The age limit of children who can enter the hospital has been raised from 14 to 16 years.——A well equipped orthopedic clinic has been established at Charlotte, as an adjunct of the health department. It was opened to the public, February 1, with Dr. Alonzo Myers, who gives his services free, in charge.

OHIO

Heart Clinic Opened at Hospital.—A clinic for patients with heart disease has been opened at the Cincinnati General Hospital, under the direction of Dr. Julien E. Benjamin. This is the first of a series of clinics to be established over the city in a campaign against heart disease. The work is under the auspices of the Public Health Federation. Under the direction of the board of health, a clinic will also be established in one of the public schools to care for children in certain districts. Dr. William H. Peters, health officer, is arranging to have persons suspected of having heart disease reported to the clinic, where free treatment and advice will be given.

Chiropractors to Serve Prison Sentences.—It is reported that four chiropractors were sentenced to the Canton workhouse and one to Trumbull County Jail, January 27, by Squire Matteson at Warren, when they refused to pay $500 fines for practicing without a license.——Ten of the seventeen chiropractors awaiting trial at Youngstown for practicing medicine without a license state that they will go to prison rather than pay fines which go to the state medical board for their further prosecution.——Fifteen chiropractors have been arrested in Cincinnati and are now awaiting trial; nine were arrested in Columbus, January 27.——It is reported that all unlicensed chiropractors in Dayton will be arrested.——Hearings of cases against chiropractors are also scheduled at Girard and Niles.

OKLAHOMA

Academy of Science.—The annual meeting of the Oklahoma Academy of Science was held at the University of Oklahoma, February 10. In addition to the reading of scientific papers detailing research work done in the state, the one hundredth anniversaries of the birth of Gregor Mendel and Louis Pasteur were celebrated.

OREGON

Personal.—Dr. Lawrence Selling was recently elected president of the Portland Academy of Medicine.——Dr. Clarence W. Keene has been appointed health officer of Silverton.——Dr. Robert A. Jayne has been elected mayor of Philomath for the second term.——Dr. Albert H. Ross, Eugene, was reelected president of the Lane County Medical Society at the annual meeting and Dr. Gaven C. Dyott, secretary-treasurer.——Dr. W. Ross Eaton, Oregon City, is seriously ill with epidemic (lethargic) encephalitis at the Emanuel Hospital, Portland.

PENNSYLVANIA

Tablet to Dr. Forwood.—A memorial tablet was unveiled by the Keystone Club of Chester in honor of Dr. Jonathan L. Forwood, first president of the Delaware County Medical Society, at a watch service on the evening of December 31, to which the members of the Delaware County Medical Society and their families were invited.

County Medical Society Provides Lecture on Vivisection.—February 1, under the auspices of the Pittsburgh Academy of Science and Art, a lecture provided by the Allegheny County Medical Society, was delivered in Pittsburgh by Mr. Ernest Harold Baynes, entitled "The Truth About Vivisection." Following this lecture, a resolution was offered to the effect that Mr. Baynes had proved conclusively that the main contentions of the antivivisectionists have no foundation in fact, and that it was the sense of the audience that "animal experimentation, including vivisection, has been and is of incalculable value to mankind and to animals through medicine and surgery, and that its practice should be allowed to continue unhampered by ignorance and prejudice."

Philadelphia

Warrants for Sixteen Physicians.—Warrants for sixteen physicians have been issued by Magistrate Grelis at the instance of R. J. Brauner, an inspector connected with the state health department, charging each with failing to report within ten days births that have occurred under their professional care. A fine of from $5 to $50 is assessed for each offense.

City Physicians Rebel Against Vice Quarantine Duty.—Mayor Moore's order for the department of health to supervise medical inspections in a city-wide vice quarantine has resulted in open rebellion in that department. Dr. George Ernest H. Johnson, for fourteen years chief diagnostician, has resigned. Dr. Henry A. Strecker, assistant chief medical inspector, has protested to the director of public health, Dr. Charles L. Furbush. Other physicians also believe they should devote their duties to the regular routine of the department. The inspections, which were to have been started ten days ago, still are under discussion. Dr. Furbush has appointed Dr. Anna G. Young for the examination of women.

Wyncote Bird Club Adopts Resolutions on Vivisection.—The Wyncote Bird Club held a special meeting, January 23, to hear an address by Mr. R. R. Logan, president of the American Antivivisection Society. Following the lecture, an open discussion was held in which Mr. Ernest H. Baynes defended vivisection. At the close of the discussion the society adopted the following resolutions:

Resolved, That it is the sense of this club that Mr. Logan has entirely failed in his attempt to show that vivisection is immoral and unethical and unnecessary to the welfare of human beings or of animals, and, be it further

Resolved, That we heartily endorse Mr. Ernest Harold Baynes' stand on animal experimentation and sane humane education in general.

Society News.—At the annual meeting of the Association of Industrial Medicine, Dr. Earle H. Ingram was elected president, and Dr. George H. Hughes, secretary.——Dr. William E. Parke was elected president, and Dr. Charles S. Barnes, secretary, of the Obstetrical Society of Philadelphia, recently.——The American Congress of Internal Medicine will convene in Philadelphia during the first week in April. Clinics and demonstrations will be given at the various hospitals of the city.——At the annual meeting of the Pathological Society of Philadelphia, Dr. Oliver H. Perry Pepper was elected president and Dr. Edward Weiss, secretary.——Drs. William H. Mackinney and Stirling W. Moorhead were elected president and secretary, respectively, of the Philadelphia Urological Society, at its annual meeting.

SOUTH CAROLINA

Chiropractic Bill Is Killed.—The bill introduced into the House of Representatives by Edgar Brown, to create a state board of chiropractic examiners in South Carolina, was killed by a vote of 65 to 46, January 31. A similar bill was killed by the House in 1922.

TEXAS

Hospital News.—The new city hospital at Teague was opened in December.——It is announced by Col. M. A. W. Schockley, commanding officer at the William Beaumont General Hospital, Fort Bliss, that improvements involving an expenditure of $50,000 will be made at that institution.

State Public Health Association.—At the annual meeting of the Texas Public Health Association, February 8, at Austin, the following officers were elected for the ensuing year: president, J. W. Butler, Galveston; vice presidents, Drs. Elva A. Wright, Houston, and Joseph B. McKnight, Sanatorium, and secretary, Dr. Zachary T. Scott, Austin.

WASHINGTON

Surgical Society Elections.—At the annual meeting of the Seattle Surgical Society, January 19, Dr. Otis F. Lamson was elected president; Dr. Walter C. Woodward, vice president, and Dr. Hubbard T. Buckner, secretary-treasurer.——At the annual meeting of the Seattle Academy of Surgery, January 24, Dr. E. Weldon Young was elected president; Dr. Frederick R. Underwood, vice president, and Dr. William C. Kintner, secretary-treasurer.

Personal.—Dr. Frederick J. Cullen, health officer of Puyallup, has been appointed health officer of Pierce County, to succeed Dr. Philip B. Swearingen, Tacoma.——Dr. Milton G. Sturgis, Seattle, read a paper on "Unrecognized Fracture of the Spine" before the Victoria (B. C.) Medical Society, recently.——Dr. J. A. McNiven, Aberdeen, suffered a fractured skull when he was knocked down by an automobile, January 11.——Dr. Ottar A. Thomle was reappointed county physician of Snohomish County at the annual meeting of the board of county commissioners, January 11.

WEST VIRGINIA

Health Officer Appointed.—Dr. Edward C. Bennett has been appointed health officer of Richwood to succeed Dr. Ernest F. Flora.

Hospital Merger.—It is announced that the Charleston General Hospital merged with the Sheltering Arms Hospital, February 1. Dr. John E. Sanaday, is superintendent of the combined institutions, which now have a capacity of 200 beds.

WISCONSIN

State Board of Health Elects.—At the annual meeting of the Wisconsin State Board of Health at Madison, Drs. William F. Whyte, Madison, and Edward S. Hayes, Eau Claire, were reelected president and vice president, respectively, for the ensuing year.

PORTO RICO

Radio Concerts for Lepers.—An anonymous gift of $100 from New York City and added local contributions have made possible the installation of a radio receiving set at Cabras Island, the leper colony of Porto Rico. The local telephone company installed the instrument free of charge, and concerts and news broadcasted from San Juan, Havana, and the United States can be received. There are thirty-six lepers now stationed on the island.

CANADA

Toronto Academy of Medicine.—The annual library and historical night of the academy was held, January 2. Dr. O. Fraser Harris, professor of physiology of Dalhousie University, Halifax, delivered the historical lecture. Dr. Primrose presented some early medical diplomas from the University of Edinburgh. Dr. James A. Temple presented a photograph of the late Dr. Edward M. Hodder, once professor of obstetrics and gynecology at Trinity Medical College. A volume of the *Consolidated Statutes of Great Britain* of the twenty-third year of Queen Elizabeth's reign was donated by Dr. Thomas W. G. McKay of Oshawa.

Hospital News.—An addition to St. Justine's Hospital, Montreal, which was recently opened, increased the capacity of that institution from eighty to 150 beds. The new structure was erected at a cost of $300,000.——During the fire in Ontario last October, the general hospital in Haileybury was completely destroyed. A site has been purchased with the assistance of the Daughters of the Empire and the Ontario Red Cross, and a building with modern equipment will be erected as soon as possible. Following the fire, the Ontario Red Cross placed at the disposal of the town an emergency hospital in which patients will be cared for until the new general hospital is erected.

Public Health News.—A proposed "Public Health Campaign" on an extensive scale is under consideration by the educational and publicity committee of the British Columbia Medical Association. Apart from a systematic press campaign, a series of public addresses will be given throughout the province shortly.——A comparative table issued recently by the provincial officer of public health in Ontario shows a remarkable decrease in the number of cases of smallpox and several other communicable diseases. Scarlet fever and diphtheria also show a falling off. Whooping cough, however, has increased. In January, 1922, there were only eighty-nine cases, while last month 376 cases were reported. Influenza, of which there is much in Toronto, shows 115 cases for last month, with twenty-nine deaths, while for the same month last year no cases were reported. Venereal diseases of all types show a downward trend in the number of cases.

GENERAL

Fraudulent Vender of Medicines.—An individual who falsely claims to be connected with Rush Medical College of Chicago is traveling through the Southwest and fleecing the public by collecting $1.98 from each, which he tells them covers the cost of medicines which will be sent to them by the college named. A stream of letters received by the college indicates that he is deceiving many people.

Convalescent Homes Listed.—The Sturgis Research Fund of the Burke Foundation for Convalescents, White Plains, N. Y., has recently issued a directory of 162 convalescent homes in the United States. They have a total of 8,980 beds, including 4,525 used during the summer months only. It is noted that one third of all convalescent beds in the United States are in New York City.

Clinical Society of Genito-Urinary Surgeons.—The third annual meeting of this association was held in Chicago, January 26-27. The following officers were elected for the ensuing year: president, Dr. E. L. Keyes, Jr., New York; vice president, Dr. Hugh H. Young, Baltimore, and secretary-treasurer (reelected), Dr. William C. Quinby, Boston. Clinics were held by Dr. Louis E. Schmidt at the Michael Reese and Alexian Brothers hospitals, and by Dr. Herman L. Kretschmer at the Presbyterian and U. S. Veterans' No. 76 hospitals.

Alpha Omega Alpha Issues Catalogue.—The first general catalogue of the Alpha Omega Alpha, the medical honorary fraternity, a volume of 250 pages, has been issued recently. In addition to a roster of 3,780 names with addresses, the publication contains a list of the general officers and committees, also a history of the organization since it was formed in 1902. Dr. William W. Root, Slaterville Springs, N. Y., secretary-treasurer of the society, is the editor. There are twenty-six chapters in the organization, two of which are in Canada, at Toronto and McGill universities.

Influenza Epidemic.—Twenty-four states reporting through their health offices to the U. S. Public Health Service gave a total of 17,593 influenza cases occurring in the country for the week ending, Feb. 3, 1923, according to the report of the U. S. Public Health Service issued this week. The same states for the preceding week reported 15,328 cases. Both figures show an increase over the same period for the years 1921 and 1922. In 1920 more than 170,000 cases were recorded. Surgeon-General Cumming stated that the present spread of influenza really amounts to an epidemic, but the disease is manifesting itself only in a mild form.

Deaths from Influenza and Pneumonia in Large Cities.—The number of deaths from influenza and pneumonia combined in certain large cities of the United States for the last four weeks of 1922 and the first week of 1923 has in nearly each instance steadily increased. New York City had the greatest number of deaths (208) in the first week of January, with Philadelphia a close second (178). Chicago came third, with 117 deaths, and Detroit fourth, with seventy-six deaths. Boston had only fifty-eight deaths, and Baltimore fifty-two. Cincinnati had forty-four deaths, and Atlanta forty. Since December 1, the mortality from influenza and pneumonia has increased week by week in each of the cities named.

Punishment for Narcotic Drug Violators.—A large reward will be given for information leading to the arrest and conviction of violators of the Federal Narcotics Drug Import and Export Act, according to amendment presented in the House this week by Representative Lineberger. The measure

fixes a fine of not less than $500 and not more than $5,000, with a prison term of from one to ten years for fraudulent importation of narcotics into the United States or for facilitating in any manner the transportation, concealment or sale of any narcotic drug after importation. Amendment provides that portions of fines paid by the offenders and of bail forfeited by offenders shall be used to pay rewards for information.

The Sofie A. Nordhoff-Jung Cancer Research Prize.—An annual prize of $500 bearing this title has been founded by Dr. Sofie A. Nordhoff-Jung of Washington, D. C. The prize is offered to encourage researches in the etiology, prevention and treatment of cancer. It will be awarded by a committee composed of members of the University of Munich, Bavaria, and will be granted for the first time in December, 1923. The committee consists of Professors Borst, Doederlein and Sauerbruch, with Professor von Romberg as chairman. This body is empowered to elect successors. The award will be made as a recognition of the most conspicuous work in the literature bearing on cancer research, done previously to the allotment of the award. Though the prize will not be awarded on a competitive basis, the commission invites all research workers in cancer to submit literature on this subject.

Case Against Sheppard-Towner Law.—The Secretary of the Treasury and his codefendants petitioned this week, in the District of Columbia Supreme Court, that the action of Mrs. Harriet A. Frothingham of Massachusetts attacking the validity of the Sheppard-Towner Maternity Act be dismissed. The defendants asserted through United States Attorney Gordon that the case cannot be maintained because it is in effect against the United States; that there is no equity in the bill, and that no facts are alleged which, if true, would entitle the plaintiff to relief. Congress has the power, counsel for the defendants claim, to act for the public welfare in matters the regulation of which belongs exclusively to the states. The law does not attempt to force the acceptance of its provisions, but leaves it optional with the states. It is anticipated that the hearing of this case will be expedited to enable it to reach the United States Supreme Court in time to be argued with the case brought there by the state of Massachusetts, which also attacks the validity of the act.

American Medical Association and Public Health.—During the proceedings at Chicago, March 5 to 7, of the Annual Congress of the Council on Health and Public Instruction of the American Medical Association, a meeting will be held on the afternoon of March 7 with the Public Health Service for the discussion of public health. At this meeting, over which Surg.-Gen. H. S. Cumming has been asked to preside, the following program will be given: "Education of Sanitarians and the Future of Public Health in the United States," by Dr. H. S. Cumming; a report on the activities carried on by the Public Health Service since the conference of last March on the education of sanitarians, by Asst. Surg.-Gen. W. F. Draper; "Recruiting and Training of Sanitarians," by Dr. C. E. Winslow; "Steps Already Taken in Standardization of Public Health Training," by Dr. J. A. McLaughlin, U. S. Public Health Service, and "The Course in Public Health and Hygiene for Medical Students," by Dr. D. E. Edsal of Harvard University. These addresses will be discussed by Dr. John Sundwall of the University of Michigan and by Dr. E. O. Jordan of the University of Chicago. The closing address, "Education of the Partly Trained Sanitarian Now Employed," by Dr. W. F. Sears of Syracuse University, will be discussed by Dr. E. G. Williams, state health officer of Virginia, and Dr. W. S. Rankin, state health officer of North Carolina.

Bequests and Donations.—The following bequests and donations have recently been announced:

Lying-In Hospital, Providence, R. I., $800,774, the proceeds of a campaign for funds; Esmond Mills, $3,000; Mr. and Mrs. E. B. Merrian, $1,500; Providence Fire Department, $1,200; Queen Dyeing Company, $1,000; in memory of the late Mrs. M. C. Dart, $900, and Mrs. Horace Kimball, $600.

Roosevelt, St. Luke's and the New York hospitals are the chief beneficiaries of the $3,000,000 estate of the late Miss Emily F. Southmayd.

Memorial and St. Joseph's hospitals, Nashua, N. H., Hopewell Society of Brooklyn, Home of St. Giles the Cripple, New York Association for the Blind, Faith Home for Incurables, Brooklyn, Servants for the Relief of Incurable Cancer, Trudeau Sanatorium, Trudeau, N. Y., and the American Red Cross, each $25,000, and a share of the residuary estate, under the will of Mrs. Sarah J. Robinson.

Twenty New York institutions will share in the distribution of the $580,471 estate of the late Alfred Blumenthal, recently killed in a railway accident in Spain. Mount Sinai Hospital will receive one-fifth of the estate.

Brown University, Providence, R. I., $50,000 from the estate of Robert P. Brown, to endow a professorship in biology; in honor of Professor Appleton of the university, $3,800, subscribed to provide annual lectures on pure or applied chemistry, to be known as the John Howard Appleton Lectureship Fund.

New York Skin and Cancer Hospital, $25,000, by the will of Mary A. Palmer Draper.

Iroquois Hospital, Watseka, Ill., $25,000, by the will of Mrs. Sarah Kay.

Trudeau Sanatorium, Trudeau, N. Y., and the Hospital for Ruptured and Crippled, New York, each $5,000, by the will of Mrs. Cora M. Perkins.

American Society for the Control of Cancer, $3,719, by the will of Mrs. Kate H. P. Roberts of Chicago.

American Welfare Association, Wieboldt Department Stores and Mrs. Wieboldt, Chicago, $4,000; Samuel Insull, $1,200; Armour and Company, Albert Breitung, Paul F. Mueller, Henry Schoellkopt, Teich and Roessler and Emil and Carl Eitel, all of Chicago, each $1,000.

Two lots at Clovis, California, for the erection of a hospital for Indians, money for which will be collected by subscription.

Society News.—The forty-fifth annual congress of the American Laryngological Association will be held at the Hotel Ambassador, Atlantic City, N. J., May 16-18, under the presidency of Dr. Emil Mayer of New York. Dr. George M. Coates of Philadelphia is the secretary.——The next annual meeting of the American Society for the Control of Cancer will be held in New York, March 3.——The American Association of Orificial Surgeons will hold its thirty-sixth annual convention in Chicago in September, under the presidency of Dr. Paul C. Goodlove, Detroit, it is announced. Garth Hyatt, former Chicago newspaper man, has been elected secretary of the research bureau of the association.——The seventy-eighth meeting of the New England Pediatric Society was held in Boston, February 9, at the Boston Medical Library. Dr. Edwards A. Park, professor of pediatrics, Yale Medical School, presided. Dr. Ruth A. Guy, New Haven, spoke on "The Use of Cod Liver Oil in Rickets; Its Action as a Regulator of the Calcium and Phosphorus Metabolism," and Dr. Ethel C. Dunham, New Haven, read a paper on "A Study of Diets and Living Conditions of Rachitic Children with a Report of the Earliest Case of Rickets on Record."——The thirty-ninth session of the American Association of Anatomists will be held in Chicago, March 28-30, under the presidency of Dr. Clarence M. Jackson, professor of anatomy at the University of Minnesota Medical School, Minneapolis.——The third annual convention of the Pacific Northwest Medical Association will be held in Seattle, June 19-21, under the presidency of Dr. H. D. Dudley, Seattle. Among the speakers will be Drs. A. J. Carlson, Peter Bassoe, Dean Lewis, Oliver S. Ormsby and R. T. Woodyatt of Chicago and Drs. F. W. Peabody and Channing Frothingham of Harvard University Medical School, Boston.

LATIN AMERICA

Personal.—Dr. P. D. Rodríguez Rivero has been appointed Director General of Health of Venezuela, to succeed Dr. L. G. Ghacín Itriago.

A Physician Elected President.—One of the most prominent Central American physicians, Dr. A. Quiñones Molina, was elected president of El Salvador, at the recent election held in that country. Dr. Quiñones Molina graduated in 1897. He has filled many positions of importance, and until recently was vice president of El Salvador.

New Cuban Journal.—The Medical Association of Camaguey, Cuba, has begun the publication of a journal entitled *Camagüey Médico*. The editor is Dr. J. Agulló Sánchez. He will be assisted by Drs. A. A. Agüero G. and F. Martinez Lamo. New officers were recently elected by the medical society as follows: president, Dr. R. V. Guerrero Betancourt; vice president, Dr. V. Rodríguez Barahona; secretary, Dr. A. Agüero García. Of sixty physicians at Camagüey, thirty attended the meeting.

FOREIGN

Death of Roentgen.—The cable reports the death of Prof. Wilhelm Konrad Roentgen, whose discovery of the rays which he modestly named the *x* rays—the unknown rays—has made his name immortal. He was born, March 27, 1845, at Lennep, near the Ruhr district. He was graduated at Zurich, and became professor of physics at Strasbourg, later at Giessen and Würzburg, and finally at Munich. His great discovery was made at Würzburg in 1895. He retired from the chair of experimental physics at Munich in 1920, at the age of 75.

Congress on "Logopädie."—The *Münchener medizinische Wochenschrift* relates that an international gathering is being planned to discuss the nature and treatment of aphasia and other disturbances in speech, of central and peripheral origin. This Kongress für Logopädie is to be held this year at Vienna. Dr. Froeschels, dozent, Ferstelgasse 6, Vienna, is

the secretary, and he appeals for communications and summaries on these topics. He extends his invitation to all countries, but urges that, in the interest of scientific discussion, the delegates selected by other countries should be able to speak German.

The Heubner Prize in Pediatrics.—It is announced that the triennial prize offered by the Heubner endowment for the most important work in pediatrics of the last three years is to be awarded to Dr. Rudolf Degkwitz of the children's clinic of the University of Munich. His name has been prominent in the literature of late on account of his success in preventive serotherapy of measles, utilizing convalescents' serum. This is the third awarding of the Heubner prize. The first recipient was Pfaundler, also of the Munich pediatric service, for his research on body measurement ratios. The prize at the second awarding was given to Dr. Ylppö of the Berlin pediatric service for his studies on the pathology of the prematurely born.

International Health Course.—The health section of the League of Nations recently brought to a successful conclusion an international health course for medical officers, in which twenty-two officials from the health departments of Austria, Belgium, Bulgaria, Italy, Poland, Russia and other countries took part. The course was held in Belgium and Italy during two and one-half months, under the auspices of the directors of the Belgian and Italian health services, respectively, through the aid of a grant from the Rockefeller Foundation. On the completion of the course, those who took part met at Geneva, where a discussion was held as to the benefits derived. The next course of this kind will be held in England.

The Jenner Centennial at Paris.—Supplementary to the public meeting of the Académie de médecine at Paris in honor of the centennial of the death of Jenner, Jan. 26, 1823, the delegates to the celebration were the guests of the Académie at a banquet at a private clubhouse. M. Paul Strauss, minister of hygiene, was toastmaster, and Sir Ronald Ross and two others responded on behalf of England. Professors Willems and Rutter spoke for Belgium, and Dr. Haccius for Switzerland. Delegates from the Netherlands and from Tunis also paid tribute to the discoverer of vaccination. Lantern slides and a museum presenting the history of vaccination were features of the public centennial celebration at the Académie. It still treasures the deposit bequeathed to it by Jenner a century ago.

Personal.—Dr. R. A. Peters has been elected to the Whitley professorship of biochemistry at the University of Oxford. ——The Milroy lectures on "Canned Foods in Relation to Health" will be delivered, February 22 and 27 and March 1, by Dr. W. G. Savage.——Dr. Geoffrey Evans will deliver the Goulstonian lectures, March 6, 8 and 13, on "The Nature of Arteriosclerosis," and Dr. Arthur J. Hall will give the Lumleian lectures on "Encephalitis Lethargica (Epidemic Encephalitis)," March 15, 20 and 22. All these lectures will be delivered at the Royal College of Physicians of London.—— The king of the Belgians has conferred the Order of Leopold II on Dr. Alexander Granville, president of the sanitary, maritime and quarantine council of Egypt.——The king of England has conferred knighthoods on the following physicians: Dr. David Drummond, professor of the principles and practice of medicine in the University of Durham; Dr. William Hamer, chief medical officer of the London County Council; Dr. Norman Walker, representative for Scotland in the General Medical Council and lecturer on diseases of the skin at Edinburgh University; Dr. Hilarion Marcus Fernando, member of the legislative council of the Island of Ceylon and Dr. Bernard Spilsbury, lecturer of morbid anatomy at St. Bartholomew's Hospital Medical College.——The Kaisar-i-Hind medal has been conferred on Dr. Robert Harper, medical missionary of the American Baptist Mission, Burma.

Deaths in Other Countries

Dr. **John B. Haycraft,** emeritus professor of physiology at University College, Wales.——Dr. **T. W. Fowler,** former mayor of Coventry, England, and president of the Coventry Division of the British Medical Association; aged 61.—— Dr. **Bernard Pickering,** secretary of the Bolton (England) Medical Association, December 18.——Dr. **John J. Pringle,** lecturer on dermatology at the Middlesex Hospital; secretary of the Dermatological Society of London; formerly president of the dermatologic section of the Royal Society of Medicine, and the British Medical Association; at Christchurch, New Zealand, in December; aged 67. Dr. Pringle was a corresponding member of the Société française de dermatologie, of the Wiener and Berliner dermatologische Gesellschaften and of the Societá Italiana di dermatologia. He edited the *Portfolio of Dermochromes* and the *British Journal of Dermatology.*——Dr. **F. P. Nunneley,** at Bordighera, December 17.——Dr. **Horatio P. Symonds,** formerly lecturer on surgery at the University of Oxford and president of the surgical section of the British Medical Association; January 16, aged 71.——Dr. **H. Hartmann,** aged 60, the leader of the movement for organization of the profession in Germany, which resulted in the foundation of the Leipzig League, now renamed the Hartmann League. As a general practitioner at Leipzig, he early appreciated the evils of contract practice in the absence of concerted action by physicians, but he found it uphill work in 1900 to rouse the profession to the advantages of organization. The general acceptance of the principle of the "free choice" of a physician by the insured was his latest and greatest triumph.——Dr. **Vaclac Pitha,** professor of gynecology and obstetrics at the University of Prague, aged 65.——Dr. **Francisco Rueda,** an otolaryngologist, at Madrid. ——Dr. **Manuel L. Sanguinetti,** surgeon to the Garibaldi Hospital at Rosario.——Dr. **Clément Philippe** of Brussels, aged 67.——Dr. **Gennaro D'Errico,** instructor in experimental physiology at the University of Naples.——Dr. **Leonel Plasencia,** professor of biologic and medical chemistry, eminent in laboratory research, and Dr. **Rafael Pérez Vento,** professor of physiology, both at the University of Havana. ——Dr. **Edmundo Lacerda** of Petropolis.——Dr. **P. Müller,** formerly director of the gynecologic clinic at Berne, aged 86. ——Dr. **F. Schanz,** an ophthalmologist of Dresden.——Dr. **Victor Bovet,** at an advanced age. He was an authority on military medicine in his day, and instructor at the University of Berne.

Government Services

Hospital to Be Discontinued

Dr. J. E. Dyer, head of the government hospital, Colfax, Wash., received orders from Washington, February 1, to close the institution at once. The thirty men still under treatment will be transferred to Knoxville or other government hospitals, it is announced. The Colfax institution has been in operation about two years.

Examination for Commissions

An examination for those who desire to obtain commissions in the Medical Corps of the regular army is announced for July 16-20, 1923, at the Office of the Surgeon General in Washington, D. C.

Bill to Repress Prostitution

The bill pending in the Senate to enlarge the powers of the Department of Justice for the repression of prostitution for the protection of the Army and Navy has been favorably reported from the Committee on Judiciary. The purpose of this bill is to revive the functions formerly exercised by the U. S. Interdepartmental Social Hygiene Board, and to authorize agents of the Department of Justice to inquire into vice conditions in the vicinity of army and navy posts, forts or hospitals. The bill proposes an expenditure of $325,000 a year for carrying out its provisions.

Hearing on Narcotics Before House Committee

The Committee on Foreign Affairs of the House of Representatives, Tuesday, February 13, began hearings on House Joint Resolution No. 430, which requests the President to urge certain foreign governments to limit the production of narcotic drugs and raw materials of which they are made to the amount actually required for medicinal and scientific purposes. The resolution states that the annual production of opium is approximately 1,500 tons, of which less than 75 tons is required. It also asks the President to request Great Britain, Persia and Turkey to limit the growth of the poppy and the production of opium and its derivatives, and to call on the governments of Peru, Bolivia and the Netherlands to eliminate the production of coca leaves and their derivatives. It is expected that physicians and officials from the Federal Narcotic Bureau, and from the Department of Justice will be called to testify before the committee.

Foreign Letters

LONDON

(From Our Regular Correspondent)

Jan. 26, 1923.

The Jenner Centenary

The centenary of the death of Jenner has been commemorated in various ways. This notice in memoriam appeared in the *Times:*

JENNER.—In honoured memory of EDWARD JENNER, M.D., LL.D., F.R.S., Physician Extraordinary to His Majesty King George IV, Foreign Associate of the National Institute of France, &c., the discoverer of vaccination, born at the Vicarage, Berkeley, Glos., 17th May, 1749, died at Berkeley, 26th January, 1823. This notice is inserted by descendants of Dr. Jenner's sister Ann, who married the Rev. William Davies, Rector of Eastington, Glos.

But the very efficacy of his discovery has led people to forget its value, for the universal devastation once caused by smallpox is forgotten. It is well to recall that in his time the disease was regarded as one that none might expect to escape. "A mother's son is never her own till he has had the smallpox" was a current saying. At the Royal Society of Medicine, the president, Sir William Hale White, delivered an address on "Jenner and His Work." Mr. Edward Jenner Davies of Stonehouse, Gloucestershire, a great-grandson of Jenner's sister Ann, placed a laurel wreath on the statue of Jenner in Gloucester cathedral. Other descendants of Jenner present were a great-granddaughter and two great-great-granddaughters. An Indian physician, Dr. M. L. Bangara, placed on the statue a gift of flowers inscribed "An humble tribute from India." A commemorative exhibition of personal relics, medals, books, manuscripts, engravings, caricatures and other objects connected with Jenner is being held at the Wellcome Museum, and will remain open for some months.

Maintenance of Illegitimate Children

An influential deputation laid before the home secretary evidence as to the unsatisfactory position of unmarried mothers and illegitimate children. They contended that the unfair proportion of the financial burden thrown on the mother was an important factor in the morbidity and mortality of illegitimate children, and also tended to a further moral lapse on the part of the mothers. They urged the home secretary to introduce a bill making it possible for unmarried parents by their subsequent marriage to relieve the innocent child of the stigma of illegitimacy, as in every other civilized country. They also proposed that the bill include provision for an increase in the maximum amount payable under an affiliation order, the present sum of $2.50 weekly being inadequate in view of the present cost of maintaining a child. The home secretary considered that the deputation had put before him a very strong case, and he expressed sympathy with the objects in view. Though want of time prevented him from promising that the government would introduce a bill this session, that would not prevent the introduction of a private member's bill, if successful in the ballot. In such circumstances, the government might see its way to furnish facilities for the passage of such a measure.

Control of the Drug Traffic

Sir William Collins, who, at The Hague in 1911-1912, assisted in drafting the measures of the International Opium Convention, has during the last five years published in the *Times* several communications urging their effectuation and the need of world-wide control of the production of opium, morphin, cocain and other drugs of addiction, if the growing abuse of these drugs and their employment for other than legitimate purposes are to be prevented or checked. In a letter to the *Times*, he now points out that it is the excess of production over any conceivable legitimate use that contributes largely to the misuse of these drugs. A report laid before the assembly of the League of Nations, last September, recommended control of production so as to limit it to the amount required for medical and legitimate purposes, as the most effective way of stopping illicit traffic. But it has not been found easy to determine with accuracy what the legitimate requirements of these drugs are (1) for the world's consumption and (2) to meet the demands of each particular nation. At the Hague Conference of 1911, Sir William Collins stated that, at a London hospital treating 138,000 patients annually, the consumption of opium was less than 13 pounds, and of morphin less than 5 ounces. Recently, with the assistance of Mr. Langford Moore, dispenser to St. Bartholomew's Hospital, he has ascertained that at ten large London hospitals, which treated more than 70,000 inpatients and more than 550,000 outpatients in the year 1921, the amount of opium used was less than 42 pounds; of morphin, less than 5½ pounds, and of cocain, a little more than 9 pounds. These relatively modest amounts tend to show that of the hundreds of thousands of kilograms of opium produced and of the tons of morphin manufactured and exported annually, there must be an ample margin available for illicit purposes.

The Elixir of Life

In a previous letter (THE JOURNAL, Jan 13, 1923, p. 121), the arrival in London of Dr. Conrad Burchardi, for the purpose of performing Steinach's operation, was announced. An evidently inspired article in the lay press informs us that, in the six weeks he has been in London, he has had 150 patients, among whom are a number of physicians. Dr. Burchardi is described as "the blond giant from Vienna," who is "no crank and performs a straightforward operation." He is "highly qualified, with diplomas from Heidelberg, Freiberg and Bonn." He is reported to have said: "We cannot cure everybody. The patient must have a sound heart, lungs and liver, and I have had already to turn down about 200 people. The operation is undoubtedly successful in most cases of neurasthenia, and there is no limit to age. I have had cures with men whose ages varied from 28 to 78. On women, we cannot operate. In their case, roentgen-ray treatment is necessary, but also is successful. I had the pleasure of enabling a society woman to return to the abandoned joys of the hunting field." Dr. Burchardi is described as born in Vienna of Danish parents, the grandson of a former prime minister of Denmark. He says that he is quite prepared to lecture to the profession. So far, neither the profession nor its journals have taken any notice of his work.

Dangerous Drugs Regulations in Victoria

New regulations governing the manufacture, sale, possession and distribution of certain poisonous drugs have come into force in Victoria. Poisons are divided into three classes: dangerous, specified and potent drugs. The first class includes morphin, cocain, ecgonin, diamorphin and other opium preparations, provided the preparation contains not less than 2 per cent. of cocain, ecgonin or diamorphin. The only persons authorized to possess, sell or distribute dangerous drugs are registered physicians, dentists, pharmacists, veterinary surgeons, licensed dealers in poisons, persons holding a special permit, and licensed manufacturers. Records must be kept of all purchases and sales, and the names and addresses of all purchasers must be entered. Dentists and veterinary surgeons are required to indicate on prescriptions that the drugs are required for local, dental or animal treatment, as the case may be. A physician must indicate on his prescription the number of times the prescrip-

tion may be dispensed, the number being limited to four. The prescription must be stamped or marked on each occasion on which it is dispensed, and when dispensed for the last time, as indicated by the maximum number marked on the script, the pharmacist must stamp or write the word "canceled" across the prescription.

When a prescription is dictated either over the telephone or over the counter, a written and signed prescription must be delivered to the pharmacist without delay. The prescription must bear the full signature in writing (a rubber stamp may not be used for this purpose), the date, and the name of the patient. Physicians who dispense their own prescriptions must keep records of all stocks of the drugs named and of all use of them. The second class (the specified drugs) includes chloral, ergot, paraldehyd, diethylbarbituric acid and sulphomethane. The pharmacist may not dispense prescriptions containing them more than twice unless the physician indicates the number of times they may be dispensed. After the prescription has been dispensed the maximum number of times, it must be marked "canceled." These drugs may not be supplied without a physician's prescription, but they may be sold to nurses in immediate charge of a public hospital or a nurse employed by the Victorian Bush Nursing Association, on a written order of a medical officer of this association. The third class (potent drugs) includes acetanilid, suprarenal, pituitary and thyroid extracts, serums or vaccines, and oil of tansy. These drugs may be sold by a pharmacist or licensed dealer in poisons, provided the label carries the words: "This preparation is a potent drug and care must be exercised in using it."

PARIS

(From Our Regular Correspondent)

Jan. 19, 1923.

Prohibition in America

I have already referred to the campaign against prohibition that is being waged in the European press, and to the ridiculously exaggerated stories that the newspapers are printing on the subject (THE JOURNAL, July 24, 1920, p. 255, and April 2, 1921, p. 947). Dr. G. Linossier, of the editorial staff of the *Paris médical,* recently began in the journal he represents a series of articles entitled, "In Dry America." He also makes reference to recent fantastic accounts that have appeared in the daily papers, which tend to discredit prohibition in general. For instance, a telegraphic dispatch dated New York, October 13, which has made the rounds of the press, affirms that prohibition has increased the number of deaths from alcohol. The number is said to have increased from eighty-three to 173 for an equal period of time. Linossier states that such a result is too improbable to be convincing, but the opponents of prohibition lose no opportunity to emphasize that the Americans, no longer having ready access to alcoholic beverages of good quality such as are found in profusion in the cabarets of France, have recourse to adulterated products, with the result that many deaths ensue. A few weeks ago, a popular illustrated journal stated that the majority of the American people regarded with impatience all Draconian legislation, and that not a week passes without some secret depository of whisky being pillaged by the mob. These disorderly scenes are said often to degenerate into regular pitched battles. In order to arouse the imagination of its readers still further, the journal printed a large colored picture representing a crowd, in a street of New York, fleeing after such a raid. The fugitives have their arms full of the stolen goods, while many bottles lie broken on the ground; a policeman, personifying "hideous" prohibition, is beating a woman crazed with drink. As Linossier remarks, all those in France (and the number is very great) who, directly and indirectly, make their living from the sale of alcoholic beverages have an interest in spreading the belief that prohibition is a failure; for, in case it proves a success in other countries, a contagious influence on France is feared. On the other hand, nearly every person in France has been reared from childhood with the false idea that wine is a generator of energy and strength quite indispensable to manual laborers and mental workers alike. In view of such mentality, it is only natural that they have wrong conceptions in regard to prohibition. Even those who do not make almost a religious cult of their wine worship, and do not regard wine as indispensable, are so accustomed to the hesitating policy of our public authorities that they are not a little surprised at the heroic decision of the American people. They are therefore ready to believe the newspapers that tell them that prohibition in America meets with great resistance and brings about disastrous results.

The Future Problems of Chemotherapy

At the close of his term as president of the Academy of Medicine, Professor Béhal delivered an address on the rôle of chemistry and the part it should play in therapeutics. He holds that the time has arrived when chemistry should be applied to the study of organotherapeutic products, vitamins, and even serums. Practitioners cannot give too much attention to the use of organotherapeutic medicaments. It is true that it is difficult to determine the dosage, for the reason that the active principles that the medicaments contain are not fully known and understood, which gives rise to much uncertainty in their use. Being derived from the organs of different animals, sometimes not belonging to the same species, their therapeutic activity may be highly variable. It should be noted that some organs contain a reserve supply of the active principle, and that others, on the contrary, contain only a very small amount, which is generated, from time to time, as needs require. Certain glands possess multiple functions depending on the diverse products that they elaborate, and it would be possible for one of these secretions to be, therapeutically, an antagonist of another produced by the same gland. In some glands the quantity of active products that they contain seems to vary greatly. Thus, Kendall has discovered that the quantity of thyroxin in the thyroid gland of the hog, during the months of January, February and March, is so slight that practically none can be extracted.

Viewing the matter from another angle, since the effects of some organotherapeutic products cannot be perceived except after some time has elapsed, it seems advisable to consider whether troubles may not develop that will escape observation. Has not the administration of thyroid gland, which produces such marvelous results in myxedema, sometimes occasioned grave accidents?

Béhal has no intention of advising that the use of these products be discontinued, for some of them have an incontestable value; but he holds that there is urgent need of trying to establish the correct dosage of their active components. It would be better still to isolate them and reproduce them synthetically. Isolation does not seem impossible, for most of these products cannot be very complicated, to judge of them after their analogy with the definite active principles of plants. The greater the number of plants of a given family, or, the greater the number of different families, in which a given product may be found, the less complex its chemical structure is, and one is entitled, with some appearance of reason, to apply the same principle to products produced synthetically by animal cells. Substances of complex chemical composition are found in only one species, one genus or one family. Then, as the number of carbon atoms in substances decreases, we find them in several families, and, finally, if their composition is very simple, they are found in

a very large number of families. Quinin, which contains twenty carbon atoms, is produced only by certain species of *Cinchona*.

Morphin, which contains seventeen carbon atoms, is found only in *Papaver somniferum-album*. Atropin is somewhat less complex, and we find it in several genera of the *Solanaceae* family: *Atropa, Datura, Scopolia*.

Tyrosin, which has nine carbon atoms, exists in a large number of plants belonging to widely different families. From this we may conclude that, if the same secretion is produced by animals belonging to different species, it is probable that the active substance is not of great molecular complexity. We have already two examples that confirm this view: epinephrin, produced by the suprarenal capsules, and thyroxin, derived from the thyroid glands of mammals.

The same conception is applicable also to vitamins, which are derived from very diverse plants, including brewers' yeast, and to animals that are considered incapable of producing them. Béhal cites a fact that shows how much the light of chemistry is needed to elucidate the question of vitamins, which is still so obscure. G. Bertrand has shown recently that an exceedingly minute quantity of zinc is necessary to assure the existence of mice, and that a still larger quantity is indispensable for gestation and parturition. If it were not known that the ingested substance is zinc, it would doubtless be regarded as a vitamin. The solution of these various problems cannot be found except through the collaboration of physiologists and chemists. The former must guide the latter in the extraction of the active substances.

MADRID

(From Our Regular Correspondent)

Jan. 12, 1923.

Pasteur Centennial

On December 17, a meeting in honor of Pasteur was held in the Atheneum. Sr. Salvatella, secretary of education, Professor Carracido, president of the Central University, Dr. Gimeno, professor of medicine, former cabinet member and Spanish representative in the League of Nations, Dr. Maranon, physician in the General Hospital and vice president of the Atheneum, the French ambassador to Spain, and Professor Pettit, representing the Pasteur Institute of Paris, were present. Dr. Maranon read an address by Dr. Turro of Barcelona, and other addresses were delivered by Drs. Carracido, Gimeno and Pettit, the last in French. Dr. Pettit made the announcement, received with applause, that the Pasteur Institute had confirmed Dr. Ferran's conclusions as to the saprophytic etiology of tuberculosis, which is a modification of Koch's classical concept. Physicians, who had hitherto paid no attention to Ferran's views, now learned in French what they had overlooked in Spanish. This is not an exceptional occurrence in this country, where we discovered Cajal when his works were translated into Spanish from German.

Leprosy in Spain

Spanish sanitary authorities have had to overcome the indifference not only of politicians, but even of physicians. Spanish apathy is difficult to overcome in sanitary campaigns, and the few physicians who struggle with congress to improve public health conditions are faced with the ignorance of politicians and the distrust of physicians. Dr. Pulido failed to secure from Congress an appropriation of 100,000 pesetas ($16,000) for the campaign against leprosy. Dr. Fernandez Criado, secretary of the Spanish Dermatologic Society, has therefore now published facts as to the prevalence of the disease in Spain. He stated that, last year, he saw two new cases of leprosy in Madrid. One was a boy, aged 19, who has lived in a suburb of Madrid since he was 2 years old, and who works for a street paving company. The second was a well-to-do woman, aged 50, who has lived in Madrid more than six years. Neither patient had been in contact with other cases. Four years before, Criado had diagnosed leprosy in another patient, aged 26, who claimed that she had had no previous disease, except a cold in the head, during the preceding four years. She was employed as a nurse, and before that had been wet nurse in another family. She came from Pastrana, Guadalajara, where there are other leper families. The laboratory confirmed the diagnosis, and the patient disappeared as soon as she learned the nature of her illness. A few months afterward, he came across her in the street.

In Spain, leprosy is either increasing, or diagnosis has improved. The authoritative book on the disease here is Dr. Benito Hernando's "La Lepra en Granada." In addition, there are several papers by Dr. Azua and a contribution from the late Dr. Garcia del Mazo, which gives the first statistics on leprosy in Spain. Garcia del Mazo compiled 898 cases, which Azua increased to 987, and there are probably over 1,000. No province is free. The colonial wars of a quarter of a century ago and the 1900-1910 immigration of indigents from Latin America caused the appearance of a number of foci in the provinces of Salamanca, Zamora and Leon. This American immigration and the yearly African migration to and from Valencia, Alicante, Murcia and Almeria, to supply farm labor, are responsible for the increase.

The people object to compulsory notification and isolation, the importance of which is appreciated only by physicians. Criado cited the cases of lepers who accept seclusion in San Juan de Dios Hospital at Madrid only when they are absolutely unable to pursue their calling. He mentioned two cases; one patient was suffering from leprous pemphigus and extensive scabious ulcers on the legs, which were dressed with dirty rags; the dressing of the sores was alternated with the sale of fish. The other case was in a pedler. Some time ago, a newspaper described a "strike" of more than twenty lepers who ran away from the hospital at Seville as a protest against the poor quality of the food. In Almeria, the lepers have the run of the streets; some beg alms, others, better off, visit saloons, and return at night to the hospital, where they sleep in the mortuary. Even Goya has no more gruesome picture. In May, 1912, when Criado was in charge of the skin clinic of the Madrid medical school, he saw a patient, from Toledo, aged 45, who appeared strong and healthy. A confluent tuberculoleprous rash covered both thighs. The diagnosis was confirmed by Dr. Azua. There were no cases of leprosy in the patient's native town, and he had probably been infected at one of the Andalusian communities, which he visited regularly as a buyer of cereals and oils, and which are noted as leprous foci. The eruption had begun two months before, and he was treated by a local physician, who prescribed cathartics, bloodletting and restriction of diet. As the tubercles did not vanish, arsenical injections were advised; but they were not given, as the patient went on to Madrid. The local physician was informed of the diagnosis in order to prevent further spread of the disease. The local board of health instructed the patient to stay away from all public places. A pit was dug in a condemned cemetery where the leper was supposed personally to bury all food leavings, wash and toilet water, and all house refuse. The news soon spread in the small town, and the baker, dairyman and butcher rejected his custom; the maid left, the barber refused to wait on him, and when the poor fellow went out, his neighbors ran away. Eight days afterward he came in tears to ask for a certificate of freedom from leprosy, which he thought might solve the problem. He had even considered suicide, and was kept from it only

by a sense of duty to his wife, who was an invalid, helpless with chronic rheumatism. He solved the problem by disappearing overnight, leaving no clue to his next abode.

In a previous address, Dr. Juarros complained that he had lost track of a soldier who had been discharged for leprosy. Criado reported the employment of a leper in the postal service and the fact that in 1912 an attendant in the Ocana penitentiary had leprous lesions on both legs. To avoid such happenings, he pleaded for better teaching in dermatology, the creation of modern leprosariums, the issuance of proper regulations as to isolation and prevention for patients who prefer to stay at home, and, finally, the redrawing of the leprosy map of Spain.

BUDAPEST

(From Our Regular Correspondent)

Jan. 17, 1923.

Meeting of the Medical Society of Oebreczen

At the recent meeting of the Medical Society of Oebreczen, Dr. Kenezi read a paper on obesity from the point of view of etiology. Most commonly the condition is due either to overfeeding or to lack of exercise, and frequently these two causes are combined. There is another group of cases in which obesity develops in spite of the fact that food and exercise are taken in proper amounts. This has been termed constitutional obesity. After prolonged discussion and study, the conclusion has been reached that in such cases the oxidation power of the organism is deficient. This, as stated years ago by Professor Noorden, bears a direct relationship to thyroid function. Temporary changes in this gland may raise or depress the power of oxidation. Dr. Kenezi therefore designated constitutional obesity "thyreogenic obesity," and classified the types as: (*a*) primary thyreogenic obesity, dependent on actual changes, such as atrophy, degeneration and functional weakness in the thyroid, and (*b*) secondary thyreogenic obesity, due to functional anomalies of the thyroid which depend on the action of other organs, such as the pancreas, hypophysis, suprarenals, thymus, and pineal gland. These questions not only have theoretical interest, but also possess important bearings on therapeutics; for anomalies of metabolism known as obesity can be treated rightly only when the origin of the anomaly has been correctly diagnosed.

HYSTERIA AND PSYCHANALYSIS

Dr. Paul Grosz objected to the present tendency of many practitioners to treat without judgment all cases of hysteria by psychanalysis. He criticized Freud's theory of hysteria, with its many additions. According to Freud, Steckel and Ferenczi, the disease is always caused by psychic trauma, which subconsciously continues the neurosis until it is brought into consciousness, when it is cured. Ferenczi has further maintained that the psychic trauma is always of a sexual nature, and agrees with his teacher, Freud, that a "lesion" of this description is at the basis of all neuroses and that there is no neurosis without disturbance of sexual life. Dr. Grosz pointed out the grave risks of a course of psychanalytic treatment, which often extends over months. He emphasized the uncritical nature of this psychologic or sexual cure as applied to all neuroses.

THE CLINICAL AND MEDICOLEGAL ASPECTS OF IMBECILITY

Dr. Strehlinger, who studied the clinical and medicolegal aspects of imbecility in the clinic of Professor Sommer in Giessen, concluded that: 1. Idiots in institutions resemble the inmates of reform schools in many bodily and mental characteristics. 2. It is therefore desirable that there should be a uniform method of investigating all such cases. 3. In studying feeblemindedness, a great many psychologic and psychophysical methods might be usefully applied for the purpose of obtaining a better insight into the mental processes in addition to those outlined in the examination blanks. 4. The improved system of classification was valuable medically, psychologically and educationally; moreover, it led to better cooperation between the medical and the educational authorities. 5. The earlier correct inferences are drawn as to the mental capacity and suitability for institutional treatment, the more positively can a case be definitely grouped in accordance with clinical and bodily peculiarities. 6. In the investigation of juvenile delinquency it must be remembered that some inmates of reform schools are obviously imbecile; if these are eliminated, the ordinary methods of investigation often fail to detect the defect; on the other hand, in cases with apparently normal mentality, more particularly as regards intellectual capacity, there are likely to be hysterical and epileptoid manifestations, as well as evidence of moral defect. 7. Possession by a juvenile offender of mental capacity sufficient to comprehend the culpability of an act is a bad sign. 8. When juvenile offenders were of apparently normal mental capacity, the investigation of environmental and inherited characters, and of family circumstances, often led to the recognition of external or internal causes for the delinquency. 9. Analysis of the external or internal factors will probably tend more and more to prove that juvenile delinquency, both in its individual and in its social relations, must be regarded as due to disease. 10. For the practical purposes required in judicial decisions and in questions connected with administrative protection of imbeciles, the particular nature of the defect must be considered first, because the different types exhibit various degrees of educability and unfitness for social existence.

ARTERIOSCLEROTIC NEURASTHENIA

Dr. Brokes said that arteriosclerotic neurasthenia is common, especially between the ages of 50 and 55; it is characterized by anxiety and depression (in association with cardiac symptoms), insomnia, heaviness and numbness of the head, fatigability and incapacity for work. On the mental side it is distinguished by apathy, ill humor and irritability. From this stage the transition is gradual to arteriosclerotic dementia, in which the memory is greatly impaired, all psychic processes are slower, the patient becomes stupid, his opinions and judgments are mechanical and elementary, his imagination atrophies, and his will-power diminishes.

BERLIN

(From Our Regular Correspondent)

Jan. 20, 1923.

International Conference on Standardization of Serums

In December, 1921, an international health conference was held in London, under the auspices of the League of Nations, to discuss the standardization of serums and serum reactions; in December, 1922, a second conference for the same purpose was held in the Pasteur Institute, Paris, at the suggestion and under the chairmanship of Professor Madsen, president of the health committee of the League of Nations. Professor Neufeld, director of the Robert Koch Institute for Infectious Diseases, Berlin, who, with Wassermann, Kolle and Sachs, took part in the conference, gives a report of the proceedings in the *Deutsche medizinische Wochenschrift*, Jan. 5, 1923. The transactions were carried on by subcommittees. The first dealt with the standardization of tetanus and diphtheria antitoxins. These investigations are nearly complete, and it is expected that an agreement will soon be reached as to a generally acceptable method of titration and standardization. Heretofore, not only have other countries used standards (immunity units) different from those of Germany, but there have been fundamental differences in titration

For example, in France, not only is Ehrlich's procedure used for the titration of diphtheria serum (combinations of toxin and antitoxin), but the effect on living diphtheria cultures is also tested.

A second subcommittee took up the question of dysentery serum, which, with us, is not required to be tested. It is certain that many unfavorable observations on dysentery serum in Germany have been due largely to the use of defective serums, and that results would be improved by a standard titration approved by the state public health service. Investigations of the antitoxin test on rabbits and mice are still being carried on.

The largest subcommittee, under the chairmanship of Bordet and Wassermann, discussed the serodiagnosis of syphilis, and several reports were read on comparisons between the original method of complement fixation, and the flocculation or precipitation methods of Sachs-Georgi, Meinicke and Dreyer. These investigations are to be continued in certain definite directions by one laboratory of each of the several countries. In Germany there have been many complaints of evils arising from the serodiagnosis of syphilis, and, in consequence, an attempt was begun last year to prevent as far as possible the injuries and untoward effects that may arise from the improper application of this delicate and practically important procedure, by adopting an officially recognized and uniform method of application of the Wassermann test. This regulation has encountered considerable opposition, especially from directors of laboratories, and it is hoped that the investigations of the health committee of the League of Nations will be of great value in preparing a revision of existing regulations, which will be necessary before long.

Two other subcommittees are engaged in investigation of the antipneumococcus and the antimeningococcus serums, respectively. With regard to the former, the subcommittee expressed the opinion that an opinion as to their efficacy would at this time be premature; however, we possess reliable methods of titration, and if antipneumococcus serums of high value according to these standards are tested in pneumonia cases which are not too far advanced, we may expect, within a reasonable time, a final and reliable judgment on the value of this form of serotherapy.

With the antimeningococcus serums, serotherapy is likewise much complicated by the fact that there are several different types of causative agent, and corresponding variations in antibodies. In Germany the state has already established standards for meningococcus serum. These standards, however, give no consideration to the different serologic types, and there is therefore need for revision. Cultures and serums of the various types of organisms are being exchanged by the laboratories conducting the investigation, and the question as to what antibodies (bacteriotropins, antiendotoxins, agglutinins, antibodies causing complement fixation) shall be used to establish the titer of a given serum is being studied according to definite standards set up by the committee. We should await the results of these investigations before we revise the official standards in Germany. This is an exceedingly important, practical question; for, in the opinion of Professor Neufeld, the antimeningococcus serum is possibly the most effective therapeutic serum yet used in the treatment of human diseases.

Amplified Audibility of Heart Sounds

Refinements in the technic of electric high tension currents have served as a stimulus to physicians to attack the problem of utilizing these currents for the clearer elucidation of the heart sounds. In an address before the Medizinische Gesellschaft recently, Dr. Leo Jacobsohn explained his experiments in this direction. He uses a type of vacuum tube such as is employed in wireless telegraphy for the amplification of impulses, and which burns like an incandescent lamp. With a comparatively small apparatus, sound units can be amplified a thousandfold or more. For instance, the ticking of a watch can be heard from the farthest corner of a large hall. Dr. Jacobsohn places a microphone on the chest, and, with his apparatus, every one in the room can hear the heart sounds distinctly. They are not as yet perfectly clear, but this was true for the first impulses transmitted by the first telephone or the first phonograph; but even now, the volume of the separate sounds, their rhythm and their frequency can be presented simultaneously to a good-sized audience. In the administration of anesthetics, an assistant to watch the condition of the pulse can be dispensed with, and in dealing with a difficult obstetric case the physician can be informed by a bell signal whether the fetal heart is still beating.

Death of Johannes Orth

Professor Orth, for many years director of the Berlin Pathologic Institute, died recently just one day before his seventy-sixth birthday. During recent years, he had suffered much from gallstones, and a few years ago Bier removed the gallbladder. In spite of this operation, he had frequent attacks of fever, but the immediate cause of death was given as cardiac insufficiency. He resigned his position as director soon after his seventieth birthday. He was the successor of Virchow, and he performed the duties of the post in the spirit of his great teacher. Orth distinguished himself, as did Virchow, by a very strong sense of responsibility to the scientific world, and exhibited painful exactitude in his scientific investigations and publications. Only the most complete conviction of the reliability of his findings could ever induce him to bring his researches on a given problem to a close and to make his results known to his fellow scientists. In his entire personality, as well as in his scientific work, he was upright and influenced in his opinions and acts solely by love of truth and not by personal considerations. He therefore enjoyed the esteem of all men of science. In addition, he won the admiration of those who did not allow themselves to be affected by his gruff outward manner, but penetrated the rough exterior and learned to know the kind heart that lay beneath. His scientific researches extended to most branches of pathologic anatomy and pathology. In recent years he devoted himself more especially to research on tuberculosis and cancer. In his studies on tuberculosis he opposed Robert Koch's belief in the slight importance of bovine tuberculosis. Probably the last article he wrote was on tuberculosis, and appeared in the *Deutsche medizinische Wochenschrift*, Oct. 27, 1922, p. 1437, under the title, "The Problem of the Unity or the Duality of Tuberculous Processes in the Lung." He devoted much attention to infectious diseases. His textbooks have been widely used, especially "Pathologisch-anatomische Diagnostik," which appeared first in 1876 and was followed by many subsequent editions. In this work particularly, we find evidence of Orth's great capacity for scientific instruction and delineation. In exceedingly clear and concise form, he gives only the established facts of pathologic diagnosis. I still remember with gratitude the great benefit that I derived as a student from this book. His large textbook on "Spezielle pathologische Anatomie" was unfortunately not completed. Orth was the first pathologist to be admitted to the Prussian Academy of Sciences. Like Virchow, he served for many years as president of the Berliner medizinische Gesellschaft, and after withdrawal from active participation, two years ago, he was appointed "president emeritus." Among other official positions, he held the office of vice president of the Robert Koch Foundation for the Combating of Tuberculosis.

Marriages

THEODORE L. HAZARD, Iowa City, Iowa, to Miss Nellie Maude Black of Drummond, Okla., at Kansas City, Mo., January 22.

FORREST NELSON ANDERSON, Lawrence, Kan., to Miss Anna E. Spradling of Kansas City, Mo., January 20.

ALFRED E. P. ROCKWELL, Worcester, Mass., to DR. KATHERINE FRENCH of Framingham, January 15.

HERBERT A. BRADY to Miss Elizabeth M. Goble, both of Grand Rapids, Mich., January 10.

ELDO HORACE M. CLAUSER, Muncie, Ind., to Miss Cora Benson of Westfield, January 19.

EDWARD WALTER ST. PIERRE to Miss Marjorie McGuire, both of Portland, Ore., December 16.

LEON BLOCK, Denver, to Miss Bertha May Levy of Ocean Springs, Miss., January 7.

CARROLL LEE SMITH to Miss Lucille Barrett, both of Spokane, Wash., January 27.

WILLIAM F. BECKER to Miss Bertha Dudey, both of Milwaukee, December 23.

A. R. SPINDLER to Miss Ethel Blanche Hoyt, both of Akron, Ohio, January 19.

L. B. WARD, Shaw, Miss., to Miss Vivian McCool of Greenville, January 5.

Deaths

Caroline M. Purnell ✠ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1887; member of the Obstetrical Society of Philadelphia; associate professor of gynecology at her alma mater; special commissioner for the American Women's Hospitals in France during the World War; gynecologist to the Woman's Hospital, the West Philadelphia Hospital for Women, the Friends' Hospital, the Norristown State Hospital for Insane, Norristown, and the State Hospital for Chronic Insane, Wernersville; aged 57; died, February 3.

Clinton Wayne Kelly, Louisville, Ky.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1867; emeritus professor of anatomy at the University of Louisville Medical Department, Louisville; Civil War veteran; practitioner in Louisville for more than a half a century; aged 78; died, January 26, from pneumonia.

Luman Moody Giffin ✠ Boulder, Colo.; Rush Medical College, Chicago, 1875; emeritus professor of surgery and dean from 1883-1911 of the University of Colorado School of Medicine; at one time superintendent of the University Hospital (Community Hospital); aged 72; died, January 23, from cerebral hemorrhage.

David William McPherson, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, Toronto, 1895; lieutenant-colonel, Canadian Army Medical Corps; served during the World War in France and England; aged 51; died recently, at the Wellesley Hospital, from bronchopneumonia.

Frank Green Simmons, Richmond, Va.; Vanderbilt University Medical Department, Nashville, Tenn., 1890; member of the Medical Society of Virginia; formerly instructor of pediatrics at the Medical College of Virginia, Richmond; aged 53; died, January 27, following a long illness.

Anna R. Osmond ✠ Philadelphia; Woman's Medical College of Pennsylvania, Philadelphia, 1897; formerly on the staff of the Woman's Hospital of Philadelphia, and for twenty years physician to the woman's department of the Philadelphia County Prison; aged 65; died, February 1.

Walter Guy Law, Ashland, Wis.; Rush Medical College, Chicago, 1896; member of the State Medical Society of Wisconsin; served in the M. C., U. S. Army, during the World War, with the rank of captain; aged 50; died suddenly in his office, January 25, from cerebral hemorrhage.

Charles Victor Fisher, Klamath Falls, Ore.; Willamette University Medical Department, Salem, 1898; member of the Oregon State Medical Association and the Pacific Coast Oto-Ophthalmological Society; aged 52; died, January 19, from carcinoma of the prostate.

Oscar George Cowley, Saginaw, Mich.; Detroit College of Medicine and Surgery, Detroit, 1904; member of the Michigan State Medical Association; aged 41; on the staff of the Woman's Hospital and the Saginaw General Hospital; died, January 30, from heart disease.

Myron Edwin Lane, Chicago; College of Physicians and Surgeons, Chicago, 1887; formerly on the staff of St. Joseph's Hospital, New York City; member of staff of the Chicago Municipal Tuberculosis Sanitarium; aged 60; died, January 17, from heart disease.

Daniel Hopkinson ✠ Milwaukee, Wis.; Milwaukee Medical College, 1901; member of the American Society of Clinical Pathologists; professor of pathology at Marquette University School of Medicine; state pathologist; aged 46; died suddenly, February 1.

Alexander Horton Travis ✠ New York; Medical Department of Columbia College, New York, 1887; formerly on the staff of St. Joseph's Hospital for Consumptives; aged 60; died, February 1, from cerebral hemorrhage.

Frederick A. Dudley, King Ferry, N. Y.; Yale University School of Medicine, New Haven, Conn., 1862; formerly member of the state legislature; Civil War veteran; aged 81; died, January 14, from senility.

Elmer Harley, Seeley, Calif.; University of Colorado School of Medicine, Denver, 1914; member of the Medical Society of the State of California; aged 46; died, January 28, from pulmonary tuberculosis.

George T. Shower, Baltimore; Hahnemann Medical College of Philadelphia, 1882; formerly president of the state homeopathic society; Civil War veteran; aged 81; died, February 2, from senility.

Griffy Benjamin Ward, Fairbank, Iowa; University of Michigan Medical School, Ann Arbor, 1880; member of the Iowa State Medical Society; aged 65; died, January 27, from heart disease.

John Edward King, Eldora, Iowa; Hahnemann Medical College and Hospital of Chicago, 1867; former president of the state homeopathic association; aged 97; died, January 23, from senility.

William Oliver Skinner, Griggsville, Ill.; University of Pennsylvania School of Medicine, Philadelphia, 1874; member of the Illinois State Medical Society; aged 74; died, January 26.

Willard Shepard Everett, Newton, Mass.; Medical School of Harvard University, Boston, 1864; member of the Massachusetts Medical Society; aged 91; died, January 31, from senility.

John Henry McMullan, Edenton, N. C.; University of Maryland School of Medicine, Baltimore, 1876; aged 73; died, December 10, at Norfolk, Va., following an appendectomy.

Edwin DeMoss Lunn, Houston, Texas; Medical Department University of Louisville, Louisville, Ky., 1890; aged 51; died suddenly, January 20, from carbolic acid poisoning.

G. C. Chandler, Shreveport, La.; Medical Department of the Tulane University of Louisiana, New Orleans, 1888; for ten years city health officer; aged 57; died, January 25.

Edwin Elvin Deal, Winchester, Mass.; Medical School of Harvard University, Boston, 1890; member of the Massachusetts Medical Society; aged 57; died, January 21.

Frank Edwin Moyer, Montpelier, Ind.; University of Michigan Medical School, Ann Arbor, 1894; aged 59; died, January 23, from heart disease and arteriosclerosis.

Frederick D. Porter, Chicago; Detroit Medical College, Detroit, 1877; member of the Illinois State Medical Society; aged 72; died, February 4, from heart disease.

James M. McCallum, Leeds, S. C.; Medical College of the State of South Carolina, Charleston, 1859; Confederate veteran; aged 87; died, January 21, from senility.

Walter Alexander Rose ✠ Rochester, Pa.; University of Buffalo (N. Y.) Department of Medicine, 1867; aged 80; died, January 1, from bronchopneumonia.

Donald W. Campbell, Atchison, Kan.; University of Michigan Medical School, Ann Arbor, 1880; aged 60; died suddenly, January 20, from heart disease.

Henry Gerkey Pyle, Long Beach, Calif.; Cleveland University of Medicine and Surgery, Cleveland, 1894; aged 56; died, January 15, from carcinoma.

James Eneu Loughlin, Norwood Station, Pa.; Jefferson Medical College, Philadelphia, 1868; aged 76; died, January 27, from cerebral hemorrhage.

Harrison Pettit Huntsinger, Pinckneyville, Ill.; Rush Medical College, Chicago, 1879; Civil War veteran; aged 80; died, January 22, from senility.

Stanley P. Newsham, Westville, N. J.; University of Pennsylvania School of Medicine, Philadelphia, 1869; aged 73; died, January 27, at Camden.

Joseph Palmer Johnson, Lynn Haven, Fla.; Rush Medical College, Chicago, 1876; Civil War veteran; aged 84; died, December 9, from senility.

Irving Smith Coburn ✠ Milton, Vt.; Baltimore Medical College, Baltimore, 1901; state senator, aged 48; died, January 20, from septicemia.

Charles McKenna, Toronto, Ont., Canada; University of Toronto Faculty of Medicine, Toronto, 1865; aged 78; died, January 8, from senility.

Scott Harrison Abbott, McKinley, Texas; Eclectic Medical Institute, Cincinnati, 1883; aged 64; died, December 22, from chronic nephritis.

Charles P. Brightwell, Maxeys, Ga.; University of Georgia Medical Department, Augusta, 1899; aged 47; died, December 25, from influenza.

Valentine Kocinski, Cleveland; Warsaw Medical College, Warsaw, Russia, 1887; aged 65; died, January 22, from bronchopneumonia.

Fred Clinton Thornley, Newark, N. J.; Jefferson Medical College of Philadelphia, 1888; aged 57; died, January 24, from mastoiditis.

J. H. Forest, Murray, Ky.; Medical Department University of Tennessee, Memphis, 1896; aged 68; died, December 11, from pneumonia.

Howard R. Hopkins, Hillsboro, Md.; Jefferson Medical College of Philadelphia, 1882; aged 70; died, January 25, from influenza.

William Henry Martin, Poindexter, Ky.; Jefferson Medical College of Philadelphia, 1851; aged 92; died, January 23, from senility.

Edwin H. Hayes, Chicago; Hahnemann Medical College and Hospital of Chicago, 1884; aged 72; died, February 11, from pneumonia.

James A. Lyons, Appleton, Wis.; College of Physicians and Surgeons, Chicago, 1894; aged 56; died, January 19, from heart disease.

George Edward Potter, Irvington, N. J.; Eclectic Medical Institute, Cincinnati, 1880; aged 67; died, January 23, from encephalitis.

Samuel Finley Smith ✠ Indian Orchard, Mass.; University of Michigan Medical School, Ann Arbor, 1873; aged 75; died, January 22.

J. Epps Pegram, Tiplersville, Miss. (licensed, years of practice); aged 72; died, December 24, from intestinal obstruction.

Eugene Henry Howard ✠ Pittsfield, Mass.; Medical School of Harvard University, Boston, 1898; aged 49; died, January 19.

Calvin F. Hess ✠ Madison, Wis.; Rush Medical College, Chicago, 1894; aged 57; died, January 2, at St. Petersburg, Fla.

William Wade Ray, Springfield, Ky.; Bellevue Hospital Medical College, New York, 1877; aged 70; died, January 18.

Charles A. Stammel, Cincinnati; Medical College of Ohio, Cincinnati, 1896; aged 63; died, January 29, from paralysis.

Theodore Cole, Lansing, Mich.; University of Michigan Medical School, Ann Arbor, 1869; aged 81; died, December 19.

J. R. Howell, Florence, Ala.; Memphis Hospital Medical College, Memphis, Tenn., 1888; aged 71; died, January 24.

Joseph C. Hughes, Ottawa, Kan.; Starling Medical College, Columbus, Ohio, 1869; aged 79; died, January 24.

Samuel E. Reynolds, Clay Center, Kan.; Medical College of Ohio, Cincinnati, 1873; aged 77; died, January 22.

John William Huffman, Prescott, Iowa; Medical College of Ohio, Cincinnati, 1879; aged 72; died, January 15.

Jacob D. Graybill, New Orleans; Pulte Medical College, Cincinnati, 1878; aged 74; died, February 1.

Isaac L. Davis, Walling, Tenn. (licensed, Tennessee, 1889); aged 74; died, January 14, from senility.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER GENERAL MATERIAL OF AN INFORMATIVE NATURE

BROWN'S NEW CONSUMPTION REMEDY

The Post Office Department Effectively Protects the Public from Another Fraudulent Consumption Cure

On Feb. 2, 1923, Postmaster General Work issued a fraud order against D. H. Brown, M.D., of Jacksonville and St. Augustine, Fla., and Brown's Magnolia Remedy Company. Brown, who is a negro, was, according to our records, born in 1868 and graduated by the Meharry Medical College at Nashville, Tenn., in 1898, receiving a Florida license in 1899. For some time he has been advertising an alleged consumption cure under the name "Dr. Brown's New Consumption Remedy." He has made his appeal especially to those unfortunate members of his own race who are afflicted with tuberculosis.

BROWN ADMITTED FRAUD IN 1917

As long ago as November, 1916, the federal authorities got after Brown under the federal Food and Drugs Act. The officials of the Department of Agriculture charged that the claims that this preparation was a remedy for consumption, pneumonia, la grippe and all diseases of the lungs and bronchial tubes were false and fraudulent. In December, 1917, Brown pleaded guilty and was fined a trivial $50 and costs. The case was reported in this department of THE JOURNAL, Feb. 22, 1919. Presumably after his brush with the Food and Drugs Act Brown ceased making his lying and fraudulent claims on the trade package but continued making them in newspaper advertisements and in circulars that were sent to those who answered these advertisements. The scope of the federal Food and Drugs Act, unfortunately, does not extend beyond the claims made on or in the trade package.

THE POST-OFFICE ACTS

Fortunately for the public, the Post-Office Department was able to reach Brown and in October, 1922, charges were filed against him and Brown was called on to show cause on or before Nov. 9, 1922, why a fraud order should not be issued against the Magnolia Remedy Company. Through his attorney, Cromwell Gibbons of Jacksonville, Brown asked that the hearing in the case be postponed until after November 21; this postponement was agreed to and November 23 set as the date for the hearing.

At that time Mr. Gibbons appeared at Washington and, before any evidence was offered, indicated that his client would be perfectly willing to eliminate those features of his business that were objectionable. The attorneys for the government replied that if Brown would cease making claims for his preparation to the effect that it would cure consumption, bronchitis, pneumonia, la grippe and influenza and would do no more than represent that the nostrum had expectorant and alterative value in the treatment of colds, coughs, etc., the matter might be disposed of. On this basis the hearing was adjourned in order that Brown might submit revised literature on or before Dec. 11, 1922. An extension of time was again asked by Brown to Jan. 2, 1923. Just before this date Brown's attorney forwarded to the Post Office Department a statement by Brown in which the man attempted to justify the fraudulent claims made in his literature. Brown was told, through his attorney, that unless he filed with the department on or before January 22, his revised literature and advertising matter, the case would again be taken up. Another postponement was made at Brown's request until January 24 when the matter came up for hearing.

THE INEVITABLE TESTIMONIALS

A sample of the preparation that had been sold through the mails was filed in evidence by the government, together

with a report by Dr. L. F. Kebler, Chief of the Drug Division, Bureau of Chemistry, U. S. Department of Agriculture. In addition to Dr. Kebler's testimony, William F. Kunke, the chemist who analyzed the preparation, testified on behalf of the government. Brown's attorney offered the usual batch of testimonials from persons claiming to have been benefited by taking the preparation and the attorney also examined Dr. Kebler on certain alleged medical authorities dealing with the use of creosote in the treatment of tuberculosis. In his answer to the government's charge, Brown had stated that his nostrum consisted principally of "a compound of creosote, Donovan's Solution and extract of malt." The federal chemists testified that the preparation had been especially tested for arsenic and mercury, the two drugs that are in Donovan's Solution (Liquor Arseni et Hydrargyri Iodidi) and it was definitely established that those drugs were not present. The chemists found that the principal ingredients of Brown's nostrum were creosote and maltose.

The government produced statements from a number of well-known physicians, specialists in the treatment of tuberculosis, regarding the uses and limitations of creosote in the treatment of that disease. The physicians were unanimous in declaring that creosote is not in any sense a cure for tuberculosis and that this fact is universally accepted by those who specialize in the treatment of this disease. Brown, in his defense, quoted from an alleged medical authority to justify his claims. The quotations were taken from an old book on materia medica, the last edition of which was issued more than a quarter of a century ago. Even this book did not claim that creosote was a cure for tuberculosis.

In view of all the evidence, the Hon. H. J. Donnelly, Acting Solicitor of the Post Office Department, recommended in his memorandum to the Postmaster General that a fraud order be issued against the Magnolia Remedy Company and also against D. H. Brown. The order was issued.

Correspondence

"THE CARE AND FEEDING OF INFANTS"

To the Editor:—In your statistics relating to breast-fed and bottle-fed babies, I see nothing definite with regard to mothers. Through long years of experience I have found that very few mothers who are in good health fail to nurse their babies. Then, in giving statistics of deaths from bottle feeding and breast feeding, why not take into consideration the fact that nonstrenuous mothers beget nonstrenuous babies, and that this fact may cause the difference in the statistical death rate—weakness?

J. J. LEISER, M.D., Lakebay, Wash.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MADURA FOOT

To the Editor:—I should like to get all available information concerning mycetoma (Madura foot). I should like to know whether any cases of this disease have been reported in this country. I have a faint idea that some cases were reported from Texas.

A. F. C., Florida.

ANSWER.—Two cases of mycetoma were reported recently from Texas by Pagenstecher (THE JOURNAL, May 6, 1922, p. 1363). In his article on Madura foot in America (*Ann. Surg.* **66**:496 [Oct.] 1917), Winslow stated that until the publication of his paper, there had been reported seven cases of this condition in the United States and Canada. Three had occurred among Mexicans living in Texas; one in a French-Canadian living in Canada; one in a young man born in Iowa; one in a girl living in Kansas, and one in an Italian who had been in this country for several years. In addition to Winslow's and Pagenstecher's papers and the standard textbooks on tropical diseases, the following references may be consulted:

Adami and Kirkpatrick: *Tr. Am. Phys.*, 1895.
Hyde, Senn and Bishop: *J. Cutan. & Gen.-Urin. Dis.* **45**: 1, 1896.
Sutton, R. L.: Mycetoma in America, THE JOURNAL, May 3, 1913, p. 1339.
Burres, W. T.: Madura Foot in Western Panama, *Am. J. Trop. Dis.* **3**: 611 (May) 1916.
Solari, E. F.: Madura Foot in Argentina, *Semana Méd.* **24**: 573 (Nov. 22) 1917; abstr. THE JOURNAL, March 30, 1918, p. 967.
Navarro, Horatio: Madura Foot, Report of a Case, THE JOURNAL, Sept. 21, 1918, p. 967.
Díaz, Albertini and Desvernine: Madura Foot in Cuba, report to the Third Pan American Congress, 1901, *Sanidad y Beneficencia*, March-April, 1918, p. 319; abstr. THE JOURNAL, March 15, 1919, p. 817.
Welchman, W., and Pirie, J. H. H.: South African Case of Mycetoma, *M. J. South Africa* **17**: 6 (Aug.) 1921; abstr. THE JOURNAL, Oct. 15, 1921, p. 1288.

A letter was published by Dr. Mark F. Boyd of Galveston, Texas, in THE JOURNAL, Nov. 6, 1920, p. 1286, requesting that he be informed of unreported cases of mycetoma, as he was compiling data on the subject.

DEATH FROM ELECTRIC SHOCK FROM HOUSE CURRENT

To the Editor:—I was called recently with Dr. F. W. E. Henkel of this place to see a man, aged 53, height 5 feet 10 inches, weight about 180 pounds, who was reported to have received an electric shock. On arrival we found that he had been dead for a number of minutes, and all efforts at resuscitation failed. He had been sorting apples in an outside cellar, and the floor, and his feet and clothes were wet. He clutched an electric lamp in his hands which were held tightly on his chest. No marks were found on the body. The lamp was a 75 Watt Type C Mazda, attached to the ceiling by a long No. 18 lamp cord. The fuses at the meter were not of more than 30 amperes. The lamp was still burning when the first man reached the spot, and was not blackened. The fuses were intact. The current is brought to the ranch at 2,300 volts, and transformed to 110 volts for lighting purposes. It is alternating, 60 cycle. The day was stormy with snow and some wind. The injured man had always been strong, and had not complained in the last few months. There was no necropsy. We wish to learn whether death from a 110 volt current is at all common, as we never before heard of a well authenticated case.

W. J. LEROSSIGNOL, M.D., Rifle, Colo.

ANSWER.—Death from shock by a 110 volt electric current is not an uncommon accident. Indeed, it has been said that no current at a pressure of more than 50 volts is really safe. Alternating currents are more dangerous than direct currents. Accidents of this kind are prone to occur when the skin is moist and the body is in contact with a good "ground." They have been somewhat frequent when electric bulbs or sockets have been handled when the person was in the bath tub. Several reports of fatal accidents of this kind have been recently abstracted in THE JOURNAL:

Balthazard, V.: Electric Accidents from House Currents, *Paris méd.* **12**: 361 (Oct. 21) 1922; abstr. THE JOURNAL, Dec. 30, 1922, p. 2255.
Zimmern, A.: Electric Accidents with House Currents, *Bull. de l'Acad. de méd.* **87**: 155 (Feb. 7) 1922; abstr. THE JOURNAL, March 25, 1922, p. 925.
Langlois, J. P.: Electric Accidents with House Currents, *Bull. de l'Acad. de méd.* **87**: 158 (Feb. 7) 1922; abstr. THE JOURNAL, March 25, 1922, p. 925.
Zimmern, A.: Electric Accidents with House Electric Current, *Presse méd.* **28**: 25 (Jan. 10) 1920; abstr. THE JOURNAL, Feb. 28, 1920, p. 635.
Heydrich, C.: Fatal Accident from Contact with Low Tension Wires, *Zentralbl. f. Gewerbehyg.* **8**: 239 (Dec.) 1920.
Mieremet, C. W. G.: Death from Shock from Incandescent Bulb, *Nederlandsch Tijdschr. v. Geneesk.* **2**: 1951 (Dec. 1) 1917; abstr. THE JOURNAL, March 2, 1918, p. 661.
Morrow, C. H.: Accidental Electrocution by a Weak Current, THE JOURNAL, June 13, 1914, p. 1889.

CAUSE OF ITCHING IN WOUND HEALING

To the Editor:—What is the cause of the itching sensation so frequently felt in wounds that are healing?

ADOLF BOWSKI, New York.

ANSWER.—Sensations of itching are due to stimulation of nerve endings in the skin. Physiologists are not agreed as to whether the nerve endings involved in this sensation are specific, or whether, as some maintain, they are identical with those that serve for touch, and the itching is the result of overstimulation. In a wound that is healing, the local reaction or inflammation results in a state of hypersensitiveness in the nerve endings, with the consequence that such stimulations as are caused by contact with dressings or air currents, or even possibly by the increased circulation, will give rise to sensations. When the wound is recent or infected and not healing, the shock or the tonic effects render the nerve endings hyposensitive, and it is only when a more healthy state appears in the wound that function is resumed, and it is often temporarily overactive.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ALASKA: Juneau, March 6. Sec., Dr. Harry C. De Vighne, Juneau.
IDAHO: Boise, April 4. Dir., Mr. Harry L. Fisher, Boise.
IOWA: Des Moines, March 8-10. Sec., Dr. Rodney P. Fagen, State House, Des Moines.
MAINE: Portland, March 13-14. Act. Sec., Dr. Adam P. Leighton, 192 State St., Portland.
MONTANA: Helena, April 3. Sec., Dr. S. A. Cooney, Power Bldg., Helena.
NEW HAMPSHIRE: Concord, March 9-10. Sec., Dr. Charles Duncan, Concord.

REPORT OF THE FOURTEENTH EXAMINATION OF THE NATIONAL BOARD OF MEDICAL EXAMINERS

The fourteenth examination of the National Board of Medical Examiners was held in twenty-two Class A medical schools, Sept. 25, 26 and 27, 1922, in Part I, which comprises written examinations in each of the six fundamental medical sciences. The subjects of the examination and the relative value of each were: anatomy, 100; physiology, 75; materia medica and pharmacology, 75; pathology, 75; physiologic chemistry, 50, and bacteriology, 50, making a total of 425 counts for this part.

Part I

A candidate taking Part I must earn at least 75 per cent. of this total. The number of counts earned in any subject depends directly on the ratings of the answered papers. Falling below 65 per cent. in two subjects, or below 50 in one subject, constitutes a failure.

Under the new plan of examination, a candidate is allowed to take an incomplete examination, omitting one of the subjects if the instruction in this subject is not completed in the medical school of attendance by the end of the second year.

One hundred and fifty-nine candidates appeared for examination in Part I; of these, ninety-six passed, twenty-seven took an incomplete examination, and thirty-eight failed to pass the examination.

EXAMINATION, PART I

ANATOMY

Answer eight questions out of the ten: 1. Discuss ovulation, menstruation and fertilization. 2. Discuss epithelial and connective tissues. 3. Make a diagram of the lymph glands of the axilla, naming regions drained. 4. Make a diagram of the lumbar plexus, labeling fully. 5. Describe the eyeball and its structures. 6. Describe the liver. 7. Describe the shoulder joint. 8. Make a diagram showing the topography of the liver, gall bladder, and their ducts. 9. Draw a medial sagittal section of the pelvis in the female; label all structures. 10. Describe the nervous mechanism involved in seeing.

PHYSIOLOGY

Answer any five questions: 1. What are the advantages and disadvantages of physiologic salt solution when injected intravenously under conditions of dangerously low blood pressure? 2. Describe the venous pulse, giving the cause of the various waves which form it. 3. Describe the circulatory and respiratory reactions which attend the breathing of 5 per cent. carbon dioxid. 4. Describe the movements of the stomach. 5. What is meant by the filtration and absorption theory of urine production? 6. Define: (*a*) respiratory quotient; (*b*) alveolar carbon dioxid; (*c*) alkaline reserve.

PHYSIOLOGIC CHEMISTRY

Any five of these questions may be answered: 1. Give in detail: (*a*) the chemistry of the red blood corpuscle; (*b*) the chemistry of the white blood corpuscle. 2. Discuss: (*a*) the chemistry of striped muscle; (*b*) the chemistry of the gray matter of the brain. 3. Give: (*a*) the chemistry of bone; (*b*) the chemistry of cartilage. 4. Discuss the chemical functions of the liver. 5. Discuss the chemistry of the thyroid gland and describe its functions. 6. Discuss the chemistry of bacterial cells. 7. Give the chemistry of the fats which we ordinarily eat, and discuss the chemical changes which take place in the fatty molecules during digestion, absorption, assimilation, and elimination. 8. Give the most prominent theories concerning anaphylaxis or protein sensitization. 9. Starting with CO_2 as present in exhaled air, follow the carbon atom through the plant and through the animal until it is returned to the air as CO_2. 10. Trace the sulphur atom taken into the body when eggs are eaten, through its digestive, absorption, assimilation, and elimination changes.

PATHOLOGY

Answer any five of these seven questions: 1. Describe the structure of a thrombus. How may a thrombus be distinguished from a postmortem clot? 2. Describe changes which occur in association with cirrhosis of the liver, omitting those which occur in the liver itself. 3. Describe the fate of bone which has undergone necrosis as the result of osteomyelitis. 4. Describe conditions under which phagocytosis occurs in human pathology. State how the process is modified by factors outside of the phagocyte and cite evidence in proof of the statement. 5. Under what conditions does cerebral softening occur? Describe the changes which are found and the end-result should death fail to occur. 6. Describe in some detail the healing of a tuberculous lesion of the lungs; of a lymph node. 7. Discuss the pathology of heart-block.

BACTERIOLOGY

Answer any five of these six questions: 1. (*a*) What is meant by p_H as used in measuring acidity and alkalinity? (*b*) To what p_H point would you adjust the reaction of culture mediums for general bacteriologic purposes? (*c*) Discuss acidity and alkalinity as they affect the metabolism of bacteria. 2. You are called on to assist in the management of a threatened epidemic of diphtheria in a home for children containing 100 children. Three children about 6 years of age are ill: one moderately, not later than the second day of the disease; the second more severely, third day; the third extremely ill, about the fifth day. (*a*) How will you confirm the diagnosis? (*b*) How will you treat each sick child, including dosage and methods of administration of therapeutic agents prescribed? (*c*) What steps would you take to prevent the spread of the disease to other children in the home? 3. (*a*) What are the symptoms of botulism? (*b*) In what classes of food products is *Bacillus botulinus* most frequently found? (*c*) How would you confirm the diagnosis, and, if confirmed, what further steps should be taken to prevent other cases of the disease? 4. (*a*) Name five bacteria which are common causes of acute intestinal infection. (*b*) How would you isolate and identify the causative bacteria in one of these diseases? (*c*) On what would you base your final laboratory diagnosis? 5. (*a*) How is smallpox vaccine virus prepared? (*b*) Give the technic of vaccination and the after-treatment. (*c*) Describe the evolution of the lesion with inert vaccine in a previously unvaccinated child; with fully potent vaccine in a previously unvaccinated and susceptible child; with fully potent vaccine in a child successfully vaccinated about two years previously. 6. (*a*) Describe the immunologic principles underlying active and passive immunity. (*b*) Give two examples of each as applied in the treatment of disease.

MATERIA MEDICA AND PHARMACOLOGY

Answer all questions: 1. Atropin: (*a*) Give its source. (*b*) Discuss its pharmacologic action. (*c*) Give the signs of an overdose. 2. (*a*) Describe the effect of chloral on the central nervous system. (*b*) Discuss the analgesic action of morphin. 3. Cocain: (*a*) Give its source and physical properties. (*b*) Discuss its action on the central nervous system. 4 Digitalis: (*a*) Discuss its pharmacologic action on the heart muscle. (*b*) Discuss its diuretic action. 5. (*a*) Discuss the action of antipyretic drugs. (*b*) Give the source of salicylic acid, three therapeutic preparations, and dosage of each. (*c*) Describe the effect of large doses of the salicylates. 6. (*a*) Name three therapeutic preparations of iron and give the dosage of each. (*b*) Discuss the pharmacologic action of epinephrin and its therapeutic indications.

Part II

Part II of the examination was held in twenty-one of the medical schools mentioned above, Sept. 28 and 29, 1922. This was also a written examination in the following subjects and with the relative values assigned: medicine, 75; surgery, 75; obstetrics and gynecology, 50, and public health, 25, making a total of 225 counts for this part.

A candidate taking Part II must earn at least 75 per cent. of this total. The number of counts earned in any subject depends directly on the rating of the answered papers. Falling below 65 per cent. in two subjects or below 50 in one subject constitutes a failure.

Twenty-seven candidates appeared for examination in Part II. Of these, twenty-one passed and six failed.

PASSED, PART II

Names and Colleges	Year of Grad.
Walter Jackson Freeman, Univ. of Pennsylvania School of Med...	1920
Hugh L. Robinson, Harvard Medical School.....	1922
Abram E. Burnett, University of Nebraska College of Medicine....	1921
Edward G. Waters, Harvard Medical School.....	1922
Claude G. Drace, Johns Hopkins University Medical Department..	1922
Allen R. Foss, University of Minnesota Medical School.....	1921
James C. Potter, Johns Hopkins University Medical Department..	1921
George Thomas Pack, Yale University School of Medicine.....	1922
Ruth N. Miller, Woman's Medical College of Pennsylvania.....	1922
Lee DeCady, Washington University School of Medicine.....	1922
William J. VanDenBerg, Harvard Medical School.....	1920
David T. Smith, Johns Hopkins University Medical Department..	1922
Wayne J. Stater, Harvard Medical School.....	1921
Henry L. Darner, Johns Hopkins University Medical Department..	1920
David T. Ford, University of Nebraska College of Medicine.....	1921
Frank G. Moore, Johns Hopkins University Medical Department..	1922
Paul B. Sheldon, Washington University School of Medicine.....	1922
C. Chester Chianese, Univ. of Pennsylvania School of Med.....	1922
Horace E. Campbell, University of Nebraska School of Medicine..	1922
Oscar H. Stover, University of Buffalo Medical Department.....	1922
Myrta M. Wilson, Rush Medical College.....	1922

FAILED

Names of Colleges	
Rush Medical College.....	1918
Harvard Medical School.....	1922
University of Oregon Medical School.....	1922
University of Nebraska Medical School.....	1921
University of Zurich.....	1910
Johns Hopkins University Medical Department.....	1922

AVERAGES OBTAINED IN PART II*

Candidate's Number	Medicine, Value, 75	Surgery, Value, 75	Obstetrics and Gynecology, Value, 50	Public Health, Value, 25	Final Averages
23	80.5	88	90	73.5	189.7
27	73	72	88	70.5	170.4
34	76.5	87	87	75	185
51	77.6	75	75	57.5	166
79	73	89	85	79	183.9
82	78	91	80	85.8	188.2
83	69	90	80	78.4	178.9
92	77	52	88	63.6	156.7
97	72	86	80	69.5	175.9
123	89.5	82	90	81.8	194
144	86	75	85	77	182.6
154	76	68	84	79.5	169.9
155	75	72	80	79.5	170.2
162	76.5	79	80	80.7	176.9
176	85	91	88	78	191.6
180	85	93	94	85.5	201.9
195	77	60	85	81.5	165.7
304	80.5	78	91	84.5	185.5
306	63.5	81	80	65	164.7
350	88	98	85	79.9	201.9
491	71	82	86	80.5	177.9
494	56.5	88	67	64	157.9
627	75	88	82	76.5	182.5
832	83.5	88	79	79.5	188
852	80	75	78	71	173.1
879	87.5	81	60	73.5	174.8
903	69	77	90	55	168.4

* The general average of the candidates is based on subject values as rated by the board. The averages in each subject are on a basis of 100; 1,000 is the total perfect mark as rated by the board for the entire examination; 225 is the maximum mark on this basis for Part II.

EXAMINATION, PART II

MEDICINE

Answer all seven questions. No credit will be allowed on questions not answered. Read the questions carefully and answer concisely what is asked. Quality will count more than quantity in marking the answers, and an intelligent understanding of the disease more than a mere array of memorized facts. The time allowance is three hours. If you use for each question the time suggested in parenthesis, you will still have thirty minutes for review and corrections. The time given with each question also indicates roughly the relative value of the question. It is unnecessary to repeat the questions when writing your answers, for you should file a printed copy of the questions with your examination papers.

1. (Twenty minutes.) (*a*) Describe a typical paroxysm of tertian malarial fever. (*b*) You are called to a patient who has a chill and find the rectal temperature 103 F. What other evidence, without an examination of the blood, would satisfy you that you are dealing with a case of malaria? (*c*) Describe your treatment of the case from this time on. 2. (Thirty minutes.) A shopgirl, 26 years of age, ordinarily in good health but subject to "head colds," had a slight sore throat and "head cold" come on four days before the time for her vacation. A slight cough followed, but without expectoration. She had malaise, chilly sensations and slight fever, but kept at work. At the beginning of her vacation exposure to wet and cold aggravated her trouble; she was obliged to go to bed; temperature, 101. She reports that the "country doctor" found râles in her chest and abnormal breathing. She was confined to bed one week. Slight fever is reported; considerable cough; expectoration, at first yellowish green and thick, soon became whitish and then ceased. It was never tinged with blood. After a week of convalescence she returns to the city. She still coughs occasionally, but has no expectoration; she is easily tired and lacks energy; she consults you because "not fit to work." Pulse, 104; temperature, 99.4; slight dulness at right apex. Any attempt to take a deep breath brings on a cough, but no expectoration results. High-pitched, whistling râles are heard throughout the chest with inspiration; their intensity is slightly greater at the dull area. The spoken and the whispered voice are slightly increased over this area, but vocal fremitus is not increased and the respiratory murmur is not modified. No other râles are heard. Heart, normal. Hemoglobin, 75 per cent. Physical examination is otherwise negative. (*a*) Discuss the question as to tuberculosis in this case on the evidence at hand. (*b*) Direct treatment for patient at this visit, writing prescriptions for any medicines ordered. (*c*) How would you handle the problem of determining later whether tuberculosis exists? 3. (Fifteen minutes.) (*a*) Describe the symptoms and course of diabetic coma. (*b*) What laboratory tests give warning of the approach of such coma? (*c*) How does the age of the patient influence the prognosis in diabetes? 4. (Fifteen minutes.) Describe (*a*) the early symptoms and (*b*) the early physical signs of tabes dorsalis. 5. (Thirty minutes.) A woman, 42 years of age, neurasthenic, rather poorly nourished, moderately anemic (hemoglobin, 75 per cent.), has had recurrent attacks of "colitis" for the last three years, and has been much worse during the last three weeks. For the last ten days she has taken one or two enemas daily to relieve the severe cramp-like pains in abdomen. Following an enema she has passed considerable gas; the fecal matter has varied from hard, scybalous lumps to loose material, and generally there is much mucus. Before her colitis her bowels moved regularly without medicine; since then there has been a marked tendency to constipation, for which she has used various "strong" medicines. The bowels have been irregular, varying from constipated to loose movements, and generally contain considerable mucus. Physical examination of the abdomen reveals nothing abnormal except tenderness on deep pressure over the colon and spastic contraction of the descending colon. (*a*) Outline a course of treatment for this patient for colitis. (*b*) Assume that later you have relieved the colitis and have chronic constipation to deal with — how would you proceed? (Write prescriptions for any medicines employed.) 6. (Twenty minutes.) In the case of a woman, 39 years of age, the abdomen is distended to about the size it would be if she were seven months pregnant. Name the four conditions that you think most likely to have caused this enlargement and tell how you would differentiate between them. 7. (Twenty minutes.) (*a*) Give the usual period of incubation of measles, scarlet fever, diphtheria, chickenpox and whooping cough. (*b*) On what day of the disease is the appearance of the eruption to be expected in measles, scarlet fever, and chickenpox?

SURGERY

Answer any five questions. 1. Give the differential diagnosis and outline the surgical management of: (*a*) concussion; (*b*) contusion and (*c*) acute compression of the brain. 2. Discuss (briefly) chronic mouth infection. 3. Give the diagnosis and treatment of bronchiectasis. 4. Give the symptoms of and outline the surgical management of a case of acute appendicitis (*a*) in a child of 10 years; (*b*) in an adult male. 5. Discuss the differential diagnosis of hypernephroma, carcinoma of the kidney and stone in the kidney. 6. Discuss the diagnosis and treatment of sarcoma of the femur.

OBSTETRICS

1. What is the corpus luteum? Give its structure, origin and supposed functions. 2. Under what conditions is spontaneous birth impossible in a woman with normal pelvis and generative organs and a child of average size? Give reasons in each instance. 3. What is the special significance of venereal disease in obstetrics? 4. What is a tubal abortion? State how it differs from tubal rupture. Outline its clinical course and treatment. 5. What is pituitary extract? Give the indications and contraindications for its use.

GYNECOLOGY

1. Define acute and chronic endometritis. State how our conception of the latter has changed in recent years. 2. What are the anatomic prerequisites for the development of prolapse of the uterus? 3. Define the terms submucous, intramural, and subserous myoma of the uterus. What symptoms and clinical findings should indicate operative removal in the last-named variety? 4. Give differential diagnosis between a large ovarian cystoma and hydramnios at the eighth month of pregnancy. 5. Discuss the symptoms, diagnosis and treatment of cystitis due to the colon bacillus.

PUBLIC HEALTH

HYGIENE

1. Name insect-borne diseases, and discuss the transmission of one of them. 2. Give the object, advantages, and disadvantages of the pasteurization of milk. 3. Discuss the chief factors in anemia in the Gulf states and discuss the methods of dealing with them. 4. Discuss the etiology and prevention of lead poisoning. 5. Give the differential diagnosis between smallpox and other eruptive diseases with which it may be confused.

MEDICAL JURISPRUDENCE

1. What are the requirements for medical practice in your home state? 2. What is the legal procedure for commitment of an insane person in your state? 3. What aid does rigor mortis give you in determining the time elapsed since death? 4. Give definition of "medical jurisprudence" and indicate four of its chief applications. 5. What are the signs of death by carbon monoxid poisoning?

Minnesota October Examination

Dr. Thomas S. McDavitt, secretary, Minnesota State Board of Medical Examiners, reports the oral, written and practical examination held at Minneapolis, Oct. 3-5, 1922. The examination covered 15 subjects and included 80 questions. An average of 75 per cent. was required to pass. Fourteen candidates were examined, all of whom passed. Thirty-three candidates were licensed by reciprocity. Two candidates were licensed by endorsement of credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent.
College of Medical Evangelists		(1922)	90.1
Northwestern University		(1922)*	90.4, 91.2
Rush Medical College		(1922)	94
Tufts College Medical School		(1919)	82.7
Boston University		(1922)	93
Harvard University		(1919)	87.1
University of Minnesota		(1918) 90, (1922)†	76.2, 88.2
Washington University		(1922)	86.2
New York Homeopathic Med. Coll. and Flower Hosp.		(1920)	92.2
Syracuse University		(1920)	89.7
University of Cincinnati		(1920)	87.4

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Stanford University		(1921)	California
George Washington University		(1904)	Dist. Colum.
Hahnemann Med. Coll. and Hosp., Chicago		(1910), (1920)	Illinois
Northwestern University		(1917)	Illinois
Rush Medical College		(1916), (1921, 2)	Illinois, (1922) Wisconsin
Indiana University		(1919)	Indiana
State University of Iowa College of Medicine		(1891), (1914), (1918), (1919), (1920), (1921, 2)	Iowa
Johns Hopkins Univ.		(1918), (1920)	Maryland, (1921) California, Ohio
University of Michigan Medical School		(1917), (1921)	Michigan
St. Louis University School of Medicine		(1922)	Missouri
Washington University		(1918)	Missouri
Creighton University		(1921, 2)	Nebraska
University of Cincinnati		(1920), (1921)	Ohio
Hahnemann Med. Coll. and Hosp. of Philadelphia		(1907)	Iowa
University of Pennsylvania		(1911)	New Jersey
University of Pittsburgh		(1921)	Penna.
Marquette University		(1922)	Wisconsin

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Rush Medical College		(1917)	N. B. M. Ex.
Woman's Medical College of Pensylvania		(1921)	N. B. M. Ex.

* These candidates have finished the medical course, and will obtain the M.D. degree after they have completed a year's internship in a hospital.

† These candidate have finished the medical course, and received their M.B. degrees, and will obtain the M.D. degree after they have completed a year's internship in a hospital.

Medical Economics

THE PHYSICIAN'S INCOME TAX

Every person whose gross income was $5,000 or more during 1922 must file an income tax return, no matter what his net income may have been. A person whose gross income was less than $5,000 must file a return if, being married, his net income was $2,000 or more, or, being unmarried, his net income was $1,000 or more. Returns must be filed on or before March 15, 1923. A person who is required to make a return and who has not received the proper blank for such return, should make application for such a blank to the collector of internal revenue in the district in which he resides. If his net income was $5,000 or less, form 1040 A should be requested; if more than $5,000, then form 1040. The fact that a collector of internal revenue has not on his own initiative supplied the proper blank does not excuse tardiness or failure in making such a return. Full instructions as to what constitutes gross income and what net income, and as to allowable deductions, applicable to taxpayers generally, accompany the blank form supplied by the collector. There are printed here, therefore, only such instructions as have a peculiar bearing on the physician.

I. GROSS INCOME: WHAT IS IT?

A physician's gross income is the total money received for professional work during the year, regardless of when the services were rendered for which the money was paid, plus such income as he may have received from investments, speculation and other sources.

II. PROFESSIONAL EXPENSES: WHAT MAY BE DEDUCTED?

Deductible professional expenses are all expenses necessary for carrying on practice. This includes office rent and maintenance, services, supplies, and certain incidentals. With reference to expenses other than professional expenses, the rules applicable to physicians are the same as those applying to all other persons; full information concerning them is printed on the blank supplied for the making of returns.

Office Rent and Maintenance.—Office rent and maintenance are deductible, provided the office is not in a building owned by the physician. If a physician maintains an office in his own house, or in an office building which he owns, he cannot charge himself rent and deduct the amount. If he rents an office for business purposes alone, in a building outside his residence, then the entire rental may be deducted. If his office is located in a rented house or apartment in which he has his residence also, then a part of the rental, in proportion to the amount of space used for business purposes, may be deducted as office rent. The same principle applies to expenditures for heating, lighting and maintenance. If a physician, having his office at his residence, has a servant, part of whose time is devoted to office work, then part of her wages may be deducted. Salaries of office attendants, assistants, stenographers and the like are deductible. The fact that a physician occasionally sees a patient at his house or apartment does not justify him in making a deduction, even though the house or apartment may not be owned by him; in order to be entitled to deduct expenses for office maintenance, he must actually have an office, with regular office hours, in his house.

Expendable and Nonexpendable Property.—A distinction is made between expenditures for expendable and for nonexpendable property. Expendable property is property that is ordinarily consumed in the using, such as dressings, clinical thermometers, drugs and chemicals. Nonexpendable property may ultimately be used up, deteriorate or become obsolete, but it is not in the ordinary sense of the word "consumed"; rather, it "wears out." Money spent for expendable property for professional use may be charged as an expense. Money spent for nonexpendable property is looked on as an investment, and cannot be deducted. The loss incident to the ordinary use of nonexpendable property, through wear and tear or through normal deterioration, however, if such property is maintained for professional use, may be deducted as depreciation.

No hard and fast rule can be laid down as to the amount that may be deducted on account of depreciation; everything depends on the nature and extent of the property, and on the use to which it is put. Five per cent. per annum has been suggested as a fair figure for depreciation on an ordinary medical library. Depreciation on an automobile would obviously be much greater. So, too, with respect to laboratory apparatus. The physician must in good faith use his best judgment, and make such allowance for depreciation as the facts justify. Depreciation should be computed on the basis of the amount paid for the article, or, if purchased before March 1, 1913, when the first income tax went into effect, then on its estimated value at that time. Elaborating somewhat on the foregoing statement, the following paragraphs are submitted:

Drugs, Dressings, Instruments, Etc.—The cost of drugs, dressings and other materials used in the treatment of patients is an expense, and may be deducted. The cost of instruments, appliances and equipment, which constitute a part of the physician's professional outfit and are to be used over a considerable period of time, is an investment and cannot be deducted. Under the latter heading, nondeductible expenses, would come money paid for office furniture and equipment, instruments and apparatus; but on such articles depreciation may be charged.

Transportation.—The cost of maintaining an automobile or a team for professional use is an expense, and may be deducted. The original cost of the automobile, or horse and vehicle, however, is an investment and may not be deducted, although depreciation may be charged against it. The cost of maintaining an automobile includes gasoline, oil, tires, insurance, repairs, garage rental (when the garage is not owned by the physician), chauffeur's wages, etc. Allowable depreciation must be a reasonable depreciation, based on the actual diminution in the value of the car resulting from obsolescence and the use to which it is been subjected. If it is computed on the basis of an average, that average must cover the entire estimated life of the car, not merely the life of the car during the time when it is in the possession of the physician. If the automobile is used for professional and for personal purposes, or if it is used by the physician or his family for recreation, then the proportion of expense of operating the car for business purposes alone may be deducted. A physician doing an exclusive office practice, who uses his car merely to go to and from his office, cannot deduct depreciation or operating expense, since he is said to be using the car for his personal convenience and not as a means of gaining a livelihood. What has been said above with respect to automobiles applies with equal force to horses and vehicles, and the equipment incident to their use.

Books and Journals.—Medical journals are regarded as expendable supplies, and money paid for them is looked on as an expense and is deductible. Medical books are looked on as nonexpendable; money paid for them is regarded as an investment, and is not deductible. Depreciation may be charged.

Medical Society Dues.—Dues paid to medical societies of a strictly professional nature are looked on as a legitimate expense, and may be deducted. Dues for social organizations, however, even though their membership is limited to medical men, is looked on as a personal expense, and is not deductible.

Traveling Expenses.—The interpretation of the income tax law published last year (THE JOURNAL, Feb. 4, 1922, p. 373), that a physician's traveling expenses incident to attendance at meetings of medical societies were deductible, was denied by a ruling of the Commissioner of Internal Revenue, June 26, 1922, to which attention has heretofore been called (THE JOURNAL, Dec. 2, 1922, p. 1937). Briefly, the commissioner's ruling denies that such expenses are ordinary and necessary expenses arising out of the practice of medicine, and denies the right of a physician to take credit for such expenses in computing the income tax he is to pay. On behalf of the American Medical Association, urgent representations have been made, claiming that this ruling is not in harmony with the statute and urging that it be rescinded. The matter is now pending before the Commissioner of Internal Revenue, and a decision is expected at an early date. It will be

reported in THE JOURNAL immediately on its receipt. It is advised that in the meantime, and up to a reasonable time before the date when returns must be filed, March 15, those physicians who desire to take credit for traveling expenses incident to attendance at meetings of medical societies, postpone the filing of returns. Physicians who are not confronted with the problem of traveling expenses should file their returns as soon as possible.

Cost of Postgraduate Study.—The Commissioner of Internal Revenue holds that money expended for postgraduate courses is an investment, not an expense, and is not deductible.

Laboratory Expenses.—Physicians maintaining laboratories may deduct rental and maintenance expenses. They may deduct, also, salaries paid to laboratory assistants, and the cost of chemicals, breakable apparatus, roentgen tubes and plates. Expenditures for apparatus, equipment and furniture, of a permanent nature, are looked on as an investment, and cannot be deducted; but a reasonable deduction may be made on account of depreciation each year.

Miscellaneous.—Oculists who furnish glasses for patients may charge as a part of their incomes the money received for such glasses, in which event they may deduct as one of the expenses of their practice the amount paid by them for the glasses they supply. Entries on the physician's account books should in such cases show the charge for professional services separate and apart from the charge for glasses.

Uninsured and unrecoverable loss by fire, theft or other means, of strictly professional equipment, provided satisfactory evidence of the loss can be produced, and premiums for insurance against fire or other losses, of strictly professional equipment, are deductible.

Miscellany

THE ADVISORY COMMITTEE ON ANTHRAX

The Advisory Committee on Anthrax, appointed by the International Labor Conference, met in London, Dec. 5, 1922. The committee was composed of Prof. Oliver of Australia; Dr. Glibert, Belgium; M. Boulin, France; Dr. Frey, Germany; Sir William Middlebrook, chairman of the Departmental Committee on Anthrax, Great Britain; Dr. Loriga, Italy; Colonel Hutchinson, India; Dr. Konai, Japan; Dr. Dixon, South Africa; Professor Rocca, Spain; Mr. Ribbing, Sweden, and Dr. Dorset, observer for the United States.

The committee was charged with inquiring into and reporting on the prevention of anthrax contracted through hides, skins and other animal products, and the disinfection of wool and hair suspected of being infected with anthrax. It was agreed that the hair used in the brush-making and upholstering industries should be disinfected before using, and that wool and hair used in the textile industry should be disinfected before being handled industrially except: (1) when the country of origin is included in the list of countries where the danger is slight; (2) when the material to be imported has already been disinfected by a recognized process; (3) when wools and hair have to be sorted before washing, unless these products are not included in the list of harmless products, and (4) in such other cases as may be determined by the committee. The processes of disinfection must be approved by the International Labor Conference and conform with the opinion of the Health Committee of the League of Nations. A list of countries where the danger is slight will be brought up to date annually by the Advisory Committee on Industrial Hygiene of the International Labor Office, which committee will be guided by these criteria: (1) for importing countries: raw materials, the country of origin of which is known, and which have not caused a case of anthrax in the importing countries, or the absence of anthrax spores after bacteriologic examination; (2) for countries of origin: the absence of anthrax among animals, or the application of strict measures for stamping out any outbreaks at the source.

The committee was of the opinion that the best precaution against anthrax among flocks is: the compulsory notification and official verification of cases of anthrax; the isolation of animals suffering from or suspected of suffering from anthrax; the destruction of the entire carcasses of animals dead or suspected to have died from anthrax, and disinfection of the immediate surroundings where the animal died as well as the premises where it was kept; and preventive inoculation against anthrax. It was decided that, in order to reach a practical conclusion of international character concerning disinfection, the International Labor Office should study this question in conjunction with the International Institute of Agriculture at Rome.

This resolution was adopted:

The committee is of the opinion that in most countries the principal danger of industrial anthrax arises in the manipulation of hides and skins, and recognizes the impossibility of securing at the present time complete disinfection to protect against this danger. The committee therefore recommends that regulations be laid down in the different countries having for their object the protection of the workers and the soil against infection by anthrax from hides and skins. The committee further suggests that the International Labor Office, in conjunction with the Health Committee of the League of Nations, should organize international research and invite nations and organizations chiefly interested to undertake such research in their respective countries. The committee considers that, in view of the fact that all countries using infected materials will be benefited by the discovery of a satisfactory process of disinfection, it is desirable that the governing body should take into consideration the possibility of finding grants in aid of research undertaken for that purpose.

The final report of the committee was adopted unanimously with the exception of one abstention, and two votes withheld on a point concerning wool.

THE BOY WHO WONDERS WHY

Sir: In after centuries will not this generation be known as "The Silly Age"? Or have they all been that way?

M. Coué gave four performances at Orchestra Hall, seating about 3,700 persons, with a top price of $2. On the one side of the footlights, 3,600 persons there to see a new show, something different to please their appetites sated with foxtrot dancing, cats and canaries, and Ziegfollies. On the other side of the footlights, the man who earnestly tries to tell them all that he is no miracle worker; behind him more than 100 cripples. Whether he cures some or not, I have a mental picture of a mother who sat in the front row on the stage, directly behind the man from Nancy, on her knees an 8-year-old boy whose eyes have never seen. The boy sat with bowed head, patiently, now and then twisting his slender fingers, an eager smile on his lips. He had been told he would be made to see.

There come storms of applause from the other side of the footlights.

"What is it?" the blind boy asks eagerly.

"Some one has been cured," he is told.

Outside, half an hour later, the boy patiently asks why M. Coué did not make him see with his eyes that have never seen.

On Saturday M. Coué sails for France, for Nancy. He will probably build himself a new chateau. Fifteen thousand persons at four Coué performances had a new thrill. The 8-year-old blind boy still sits patiently twisting long fingers and wondering why.

Yes, this will be the silly age.

XYLOID, in "Hit or Miss," Chicago *Daily News.*

Mental Attitude as a Cause of Constipation.—The mental attitude is no small factor in the cause of constipation. The laity do not understand that the colon is made to be a garbage can, and that its walls and mucous surfaces are prepared by nature to handle the fecal matter without harm to themselves or the body. They think only of the "harm" and "injury" coming to them from the retention of such matter as the feces. Naturally, they look upon the function of the tract from the mouth to the anus as one of absorption, and when constipated they conjure up in their minds wonderful mental pictures of the condition they are getting into by lack of bowel movement.—R. M. Clarke, *California State J. Med.* **21**:22 (Jan.) 1923.

Book Notices

THE HISTORY OF HUMAN MARRIAGE. By Edward Westermarck, Ph.D., Hon.LL.D., Martin White Professor of Sociology in the University of London. In three volumes. Fifth edition. Cloth. Introductory price, $9.50. New York: The Allerton Book Company, 1922.

In 1891 appeared the first edition of this anthropologic work, which was destined to become one of the classics of its subject. The small volume of that period—200 pages—with an introduction by the renowned Alfred R. Wallace, has now grown to a three volume work with more than 1,800 pages. There is a bibliography over 125 pages in length, and an elaborate index. The author's approach to his subject is biologic. His consideration of secondary sexual character, of primitive means of attraction and of the effects of environment on life bears the stamp of this point of view. The effects of economic conditions on marriage and the social aspects of the subject, which chiefly concern the sociologist, are not, however, neglected. It is the broad presentation of a vast amount of data which marks this book as a scientific work. The author draws no morals from his inquiry into the customs of primitive peoples and of modern savages. He places his facts before the reader, and he interprets the facts in the light of evolution and the development of the various races. Professor Westermarck, who holds the Martin White Professorship in Sociology in the University of London, had access, in the preparation of this edition, to the vast material available in the reading room of the British Museum. The books are not, however, mere storehouses of data and description. The author's style is pleasant, and he has an instinct for passages in the authorities whom he cites that convey actual pictures of life in the communities described. The aim of the work has been completeness. Beginning with the method of the study, the author considers the hypothesis of promiscuity, and celibacy, sexual attraction, endogamy, exogamy, marriage by barter, marriage rites, monogamy, polygyny, polygamy, polyandry, group marriage and the duration and dissolution of marriage. The subject is fundamental to an understanding of the history and the most vital problems of the human race. Professor Westermarck's earlier editions have been translated into almost every language in the world. It is gratifying to have available a convenient, new fifth edition in English.

LEHRBUCH DER GRENZGEBIETE DER MEDIZIN UND ZAHNHEILKUNDE FÜR STUDIERENDE, ZAHNÄRZTE UND AERZTE. Bearbeitet und Herausgegeben von Dr. Julius Misch. Second edition. Volumes 1 and 2. Paper. Price, 1,200 marks. Leipsic: F. C. W. Vogel, 1922.

The close relationship between affections of the mouth, especially of the teeth and gums, and those of the rest of the body has been known for a long time. Only too frequently are the teeth made to suffer for woes attributed to them when the cause lies elsewhere. A clear understanding of what this relationship consists, what the limitations of dental practice are, and under what conditions dental aid is required would be a great boon to mankind. What is required by the physician is a clear-cut description of oral complications he may encounter in practice, and by the dentist, when to call medical aid. The authors have tried to meet this requirement, but unfortunately have put this information in two bulky volumes. One cannot criticize unfavorably the results of their labor. The whole domain of medicine is covered: internal medicine, pediatrics, rhinology, otology, laryngology, obstetrics and gynecology, dermatology, syphilis and occupational diseases. The illustrations, most of which are borrowed from the most authoritative sources, are reproductions of roentgenograms, colored histologic drawings and the like, and are excellent. As a textbook for the dental student, it would be admirable were it not for the innumerable excursions into unnecessary fields, such as the technic of auscultation, percussion, rhinoscopy, otoscopy, bronchoscopy and intubation. As a textbook for the physician, it would be far more valuable if only the oral or dental conditions of the diseases under consideration were described. The section on pediatrics is complete and profusely illustrated. The importance of careful prophylaxis in various conditions affecting childhood cannot be overemphasized. A whole chapter is devoted to syphilis of the mouth. It is interesting to note that in the section on hysteria the authors point out the necessity of a careful diagnosis before embarking on dental work, in order to avoid any legal complications that may arise for unnecessary work when the symptoms, really of psychic origin, are attributed to an organic condition in the mouth. Dentists who still have a fear of plying their trade on pregnant women with teeth defects can take heart and proceed with their work after reading that nowhere is it more necessary to take care of the teeth than in pregnancy, and thereby avoid distressing after-effects. In spite of its bulk, this work is an excellent reference book. There is an exhaustive bibliography and a complete index.

LAWSON TAIT: HIS LIFE AND WORK. A Contribution to the History of Abdominal Surgery and Gynæcology. By W. J. Stewart McKay, M.B., M.Ch., B.Sc. Cloth. Price, $7.50 net. Pp. 579, with illustrations. New York: William Wood & Co., 1922.

This can scarcely be regarded as a biography, for of its 575 solid pages only twenty-five or thirty contain material that can be designated biographic. In the opening paragraph it is said that Tait was the son of Archibald Campbell Tait; yet in three different places in the body of the book the old story that Tait was the natural son of Sir James Y. Simpson is repeated, and in one place photographs of Tait and Simpson are reproduced on opposite pages, evidently to show the similarity of features and of physical characteristics of the two men. Casually the reader is told that "Tait is now [1897] living in Wales," but no reason is given for his leaving Birmingham. But while the book may not be an ideal biography, it is definitely what is claimed by its subtitle, "A Contribution to the History of Abdominal Surgery and Gynecology." The life and work of few medical men has left a greater impress on gynecology and surgery than did that of Lawson Tait. His personality, however, especially his aggressiveness and his intolerance in discussion, embittered many of his confrères against him and prevented that recognition which he otherwise would have received.

Tait was fortunate in that he commenced his professional work at the time when anesthesia had made surgical procedures painless, when the work of Pasteur and Lister had given the clue to safety in radical surgery, and when "hospital gangrene" and "laudable pus" were becoming things of the past. It was the ideal opportunity for the ambitious surgeon. It was during the quarter century from 1870 to 1895—approximately the period of Tait's active work in Birmingham—that abdominal and gynecologic surgery had its first great development, and in which were worked out the fundamental principles and procedures on which modern surgery has developed. This book is a record of this development; and though Tait's connection with it is the central idea, full credit is given to others. Naturally, diseases of, and operative procedures on, the ovaries and all the acrimonious discussion relating thereto, not forgetting the method of treating the pedicle, take a prominent place. Ectopic pregnancy, hysterectomy for fibromyoma, chronic inversion of the uterus, pelvic suppuration and evolution of hysteromyomectomy, the subjects of a few of the chapters, indicate the scope of the work and the variety of the subjects considered.

Of course Listerism was the vexed question of forty or fifty years ago. When Lister's views were finally being accepted in England, Tait came out in opposition and advocated absolute cleanliness—asepsis—and vigorously opposed the use of chemical antiseptics. Tait, as this author intimates, must be called the father of aseptic surgery.

An interesting chapter, and one well worth reading even now, is that on Tait's operation for the repair of the female perineum. It is well illustrated, and contains details of Tait's method. The chapter on cholecystostomy is an excellent review of the subject. The text for the review is a paper by Tait, "The Surgical Treatment of Gall Stones," 1879, in which he reported what he claimed to be "the first successful case on record." The present author goes back almost to prehistoric times, and finally shows that Bobbs of Indianapolis "was the first to perform the modern operation

of cholecystostomy." Other subjects are treated in similar manner, and the author has tried to be fair and give credit where due.

This book will be read with profit not only by those interested in Lawson Tait, but also by all who have any interest whatever in the history of the development of abdominal surgery.

A MANUAL OF PHARMACOLOGY AND ITS APPLICATIONS TO THERAPEUTICS AND TOXICOLOGY. By Torald Sollmann, M.D., Professor of Pharmacology and Materia Medica in the School of Medicine of Western Reserve University. Second edition. Cloth. Price, $7 net. Pp. 1066. Philadelphia: W. B. Saunders Company, 1922.

The second edition of Dr. Sollmann's work contains all the admirable features which made the first contribution preeminent. But the present work also contains the author's estimates of the advanced therapeutic and pharmacologic data up to January, 1922. There have been incorporated important additional changes in all parts of the text; also introduced are excellent discussions of new topics, such as the "war-gases," the new antiseptics (hypochlorite derivatives, acridine dyes, mercury compounds, protargins) cuprein derivatives, and paraffin for films. The author states that these additions have enriched the bibliography alone by more than twelve hundred titles. Throughout the text American names as well as the newer nonproprietary designations are used; this is a particularly valuable feature to teachers of materia medica. The subject matter is of large scope; the broad conceptions, generalizations and certain detailed conclusions—all of great and practical pharmacologic importance—are printed in larger sized type; a large mass of minute detail—data for consultation—appears in smaller type. Thus may the manual serve for both study and reference. It is reliable and a distinct credit to American medicine as well as to pharmacology. Not only is it a work for the student and laboratory worker, but it is equally valuable for the practitioner. Progressive physicians realize that the estimate of a drug cannot be based on uncontrolled clinical observations or on uncritical statements handed down from book to book. Physicians abreast the times demand that all the scientific evidence concerning drugs—chemical, pharmacologic and clinical—shall have been considered. For their purpose, there could be no better addition to the library than Sollmann's Manual of Pharmacology.

UNTERSUCHUNGEN ÜBER DIE EIGENREFLEXE (SEHNENREFLEXE) MENSCHLICHER MUSKELN. Von Paul Hoffmann, Privatdozent für Physiologie in Würzburg. Paper. Price, $1.20. Pp. 106, with 38 illustrations. Berlin: Julius Springer, 1922.

This is a scientific discussion of tendon reflexes by a physiologist. He objects to the term tendon reflexes and prefers to call them Eigenreflexe (proper muscle reflexes, idiomuscular reflexes). The tendon plays no important part, the reflex being produced by a sudden pull in the long axis of the muscle, and it is immaterial whether this is produced by tapping the tendon or moving the joint suddenly. The author deplores the use of the term "reflex" for such complicated phenomena as Pawlow's "conditional reflexes," in which association is involved. He shows that recent physiologic investigations have removed the objection to the true spinal reflex nature of the so-called tendon reflexes raised on the ground that the reaction time is too short. Apparatus and recording methods for the fine study of reflexes are described in detail.

DIE EPIDEMISCHE ENCEPHALITIS. Von Professor Dr. Med. Felix Stern, Oberarzt der Universitätsklinik für Psychische und Nervenkrankheiten Göttingen. Paper. Price, $2.80. Pp. 228, with 12 illustrations. Berlin: Julius Springer, 1922.

This is No. 30 of the monograph series edited by Foerster and Wilmanns. It is a carefully worked out monograph discussing all features of the disease, based on the extensive clinical and pathologic work of the author and a critical review of the entire literature. American, English and French observations are considered as fully and impartially as those by German authors. It is by far the most comprehensive book on this disease published so far, and it enters more deeply into pathogenic problems than any other. While calling attention to all of the manifold symptoms and lesions encountered, the main effort is centered on presenting a picture of the disease as a whole and to establish scientifically its nosologic entity. The discussion of its relationship to influenza is very fascinating and convincing, though no positive conclusion is reached except that a close relationship exists. It is thought that the filtrable encephalitic virus exists in a harmless form in the nasal mucosa of a great many persons and that it requires activation by the influenza virus and possibly by others of unknown nature. The possible relation to ordinary herpes is discussed. Much attention is given to the chronic and recurring forms, especially the parkinsonian form, and it is considered possible that toxins from the liver, kidneys or ductless glands may participate in their pathogenesis. So far very little material from old cases has been available for study, and it is not considered settled that we are dealing with the action of persistent encephalitic virus, as is the case with spirochetes in paretic dementia.

FUNCTIONAL NERVOUS DISORDERS: THEIR CLASSIFICATION AND TREATMENT. By Donald E. Core, M.D., M.R.C.P., Honorary Assistant Physician, the Manchester Royal Infirmary. Cloth. Price, $6. Pp. 371, with 21 illustrations. New York: William Wood & Co., 1922.

This is an extremely difficult book to read because the author has developed a language of his own in which he uses many words such as "psychic dissociation" and "atmosphere" in a quite special sense, which is not always obvious. This very decidedly interferes with the purpose of the author in writing the book, which was the introduction of order into the chaotic vagueness which at present stamps the classification and conception of functional nervous disorders. Dr. Core, on premises of his own, which contain much food for thought, divides these disorders into regressive and progressive types. The former contains only hysteria, which is divided into primary, secondary and tertiary varieties dependent on "the atmosphere" in which the condition develops. The progressive disorders present symptoms referable, essentially, to disturbances in the sympathetic system. They are subdivided into "instinct-distortion neuroses or dysthymias," and "mnemoneuroses." The latter are usually end-stages of the dysthymias, and are fundamentally dependent on memory. There is also much discussion of the relation between functional disorders and structural disease. Great stress is laid on the causation of the latter by the former, and yet the reasoning is difficult to follow and ignores some facts of histopathology. The involved phraseology is distinctly unfortunate, because close study reveals original thought, and suggests constructive possibilities. There is much that is worth the labor of reading for the specialist, but the book cannot be recommended to the general reader.

THE PROCESS OF DIAGNOSIS INCLUDING THE METHOD OF HISTORY-TAKING, AND PHYSICAL EXAMINATION OF SURGICAL CASES. By E. Stanley Ryerson, M.D., C.M., F.A.C.S., Associate in Surgery and Secretary of the Faculty of Medicine, University of Toronto. Cloth. Price, $1. Pp. 109. Toronto: University of Toronto Press, 1922.

This little book would be especially suitable reading for the intern entering on his hospital service. Such reading could not fail to improve the quality of the examinations of patients and of the histories written. The difficulty of eliciting facts by interrogation of the patient is well brought out by the author. He quotes Mlle. Borst, who found that "the degree of fidelity of the hesitating witness may be put down as 56 per cent.; of a confident witness, 86 per cent.; of a sworn witness, 92 per cent.," but considers these results too favorable, as those examined knew they were going to be tested, and endeavored to fix the facts in their memory. A similar test applied to fifty-four students, who had no warning, showed an average fidelity of 27 per cent. "The practice by many physicians of giving the history 100 per cent. value and making a diagnosis on this alone and prescribing treatment in accordance with this diagnosis is scarcely justifiable if the facts elicited really have only 27 per cent. truth in them." The subject is taken up chiefly from the standpoint of the surgeon; but the author does not intend to present a systematic treatise on surgical diagnosis. He aims merely to assist students in the process of diagnosis by suggesting the exercise of logic and the application of system.

Medicolegal

Medical Services for which Employer Is Not Liable

(Gainesville Limestone Co. v. Robertson (Ga.), 113 S. E. R. 98)

The Court of Appeals of Georgia, Division No. 2, in reversing a judgment obtained by plaintiff Robertson against the defendant company, gives no further information about the case than is contained in the syllabus by the court that, in a suit in quantum meruit (a suit to recover the reasonable value of services), when it does not appear that the services rendered by the plaintiff were rendered to the defendant, or for the defendant's benefit, or, if rendered to a third person, were rendered in the performance of a duty which the defendant owed to such third person, no promise by the defendant to pay for the services will be implied.

Medical services rendered to an injured employee, such as the performance of an operation for the purpose of relieving him of the effects of the injury, and in giving him medical attention generally, are not services for the benefit of the employer when they are not rendered until after the injured person has reached his home and been cared for by another physician; and are not rendered in the performance of any duty which the employer may at the time of the injury owe to the employee, in the nature of emergency treatment, by way of a humanitarian or legal duty to minister immediately to and care for the injured employee.

When, at the time of injury to an employee, and after the employee had been informed that a certain physician had been summoned to treat his injury, the employee requested a fellow servant to summon the plaintiff, who was his own family physician, and the plaintiff was accordingly summoned, and, in company with the other physician, treated the employee's injuries, and continued in attendance on him; when, several days afterward, an authorized agent of the employer stated to the physician who had first been summoned that he desired that everything be done for the benefit of the injured employee, including the procurement of other physicians if necessary, and when this physician did cooperate with the plaintiff, the inference was not authorized that there was an express contractual relation between the plaintiff and the employer, obligating the employer to pay the plaintiff for any medical services rendered to the employee.

The verdict rendered for the plaintiff, being without evidence to support it, should have been set aside on the defendant's motion for a new trial.

Invalid Ordinance and Revocation of License

(Moorehouse v. Hammond (Utah), 209 Pac. R. 883)

The Supreme Court of Utah says that a complaint in writing was filed in the office of the defendant, as director of registration, in which it was charged that plaintiff Moorehouse had been guilty of unprofessional conduct in that he had wilfully failed to report to the health officer in writing a case of infectious disease which he had treated on a certain date, and that, having been charged with this offense before a justice of the peace, he had pleaded guilty and been adjudged to pay a fine of $25. Thereafter, a hearing was had before the defendant and a committee of physicians, as provided by statute, and the committee, after hearing the evidence, reported that it found the accused guilty of unprofessional conduct as charged, and recommended that his license to practice medicine and surgery be revoked; after which the defendant entered an order of revocation.

The plaintiff was charged with violating a town ordinance that required a report "in writing," while the state statute merely requires a physician to report "the existence of any contagious or infectious diseases . . . to the local board of health." The ordinance required more from the physician than did the statute. While the cities and towns, including boards of health, in Utah, are given ample power to pass and enforce ordinances, to promulgate and enforce rules and regulations respecting the public health and to require certain things to be done in case of contagious and infectious diseases; when, as here, the statute specifically defines what act or acts of commission or omission on the part of a physician shall constitute unprofessional conduct authorizing the revocation of his license to practice medicine, an ordinance, in the absence of express statutory authority, cannot impose greater or different duties in that regard than the statute imposes.

However, if it was held that the ordinance in question could impose the duty of reporting contagious and infectious diseases in writing, yet, in view of the fact that it did not denounce the omission or failure to report as unlawful nor impose any penalty or punishment for a failure to make a report, the ordinance was clearly unenforceable, and the imposition of the fine by the justice was beyond his power and constituted manifest usurpation.

Besides, a member of the board of trustees of the town testified that he was the authorized quarantine officer of the town; that he was present at the house of the afflicted person; that the plaintiff informed him, as quarantine officer and trustee, that the patient was afflicted with smallpox, and that, immediately on receiving this information, he put up a sign quarantining the house in which the patient was confined. The provisions of the statute were thus substantially complied with, and that is all that the law requires.

In concluding its opinion, the court desires to add that it is very reluctant to interfere with the orders of the boards of health in carrying into effect the rules, regulations and ordinances relating to the prevention of disease and the protection of the public health. In enforcing these rules, regulations and ordinances, the boards of health are exercising the highest functions of government, and they should not be interfered with unless it is clear that they have exceeded the bounds of their authority. When, however, as here, the rights of a citizen have been invaded and he has been condemned without authority of law and has had his license to practice his profession revoked, the court has no alternative but to correct the wrong by annulling and setting aside the order by which his privileges have been denied him.

Physician Not Liable for Death of Child from Eating Tablets Left for Adult

(Walker v. Chase (Ia.), 190 N. W. R. 397)

The Supreme Court of Iowa, in reversing a judgment for $3,500 damages that was rendered against the defendant, a physician, for the death of a child, alleged to have been caused by the physician's negligence, says that the case was unique in that it had no precedent as an authority; that the court had examined the authorities cited in the brief for the plaintiff and found none that could fairly be called an authoritative precedent in support of a recovery in this action, which was brought by the father of the child as administrator of its estate. The evidence disclosed that the defendant was called to the home of a patient, 22 years of age, who was being attended by the mother of the child. He left in a china cup on the table twelve or fifteen pink tablets for the patient, each tablet containing one-sixtieth grain of strychnin. On the following morning, the child, who was 17 months old, was discovered in a chair at the table after she had eaten all of the tablets, less four. She went into convulsions and died within an hour. The plaintiff sought to make a point of the fact that the tablets were pink and therefore attractive to a child, and he argued that, in putting the pink tablets into the china cup and leaving the cup on the table within the possible reach of the child, the defendant exposed her to a danger which he ought to have foreseen and against which he ought to have guarded.

If, instead of setting the cup on the table, the defendant had placed it in the hand of the child's mother or of the other attendant, this circumstance would have wholly undermined the argument on the proposition that it was negligent for the defendant to put the tablets in a cup and to leave the cup on the table, and that his responsibility for this act continued as long as the tablets remained where he left them. In legal effect, the cup with its contents was put into the custody and control of the child's mother as effectively as by any other conceivable method. It was at her hand and in her care. In order to carry out the instructions of the defendant to give the contents to the patient in doses of

one tablet every four hours, she must necessarily handle the cup and assume control of it. It was not wrong for the trial court peremptorily to instruct the jury that the act of the defendant amounted to a delivery of the tablets to the child's mother. The care, custody and control of the cup with its contents passed that evening to her, and from that time forward, she, and not the defendant, was responsible for whatever method of care, custody and control she chose to adopt.

Nor was the defendant negligent in that he failed to warn the mother that the tablets, if taken by her child, would be injurious and dangerous. A formal warning to the mother would have been a mere formality, which would have added nothing to the knowledge she already had that it would be extremely dangerous for a child of the age of the one in question to swallow ten or a dozen doses of medicine. Though the petition charged a failure to label the tablets, it was not contended that the failure to do it was a violation of the statute. It was urged as a circumstance on the question of negligence. But an instruction was technically erroneous which implied that the burden of proof was on the defendant to show that the mother knew that the tablets contained drugs that were dangerous to the health and life of her child. On this question, the burden was on the plaintiff, not on the defendant. The conclusion of the supreme court is that the record disclosed no evidence of negligence on the part of the defendant, and that his motion for a directed verdict ought to have been sustained.

Duty as to Reporting Result of Physical Examination

(Kelman v. Union Ry Co. (N. Y.), 195 N. Y. Supp. 313)

The Supreme Court of New York, Appellate Division, First Department, reverses an order that was obtained by the defendant requiring the plaintiff, who was seeking to recover damages for personal injuries, to submit to a physical examination by two physicians named, which in its final form was in accord with an opinion that the physicians should file their report with the referee, and that they could furnish a copy of the report to the attorney for the plaintiff, as well as to the attorney for the defendant. The court says that the right to a physical examination of an adverse party did not exist in the state of New York prior to the adoption of the amendments to Section 873 of the Code of Civil Procedure. That section does not require the physican to make a report to any one. As the examination is made in behalf of the defendant, at its expense, and because it is ignorant of the nature and extent of the plaintiff's injuries, unless the physician communicated the result of the examination to the defendant's attorney, the attorney would be as ignorant of the plaintiff's physical condition after the examination as he was before. It is therefore to be expected that the results of the examination will be communicated to the defendant's attorney. The physician cannot be required to file a report, either with the referee or with the clerk of the court, nor can he be compelled to make a formal report to either party. Although the physicans are appointed by the court, they are not thereby constituted a commission to hold an inquisition on the physical condition of the plaintiff. They are simply to testify on the trial as other witnesses to the facts they ascertained from such examination.

Valid Ordinance to Protect Food from Flies and Dust

(Barrett et al. v. Rietta et al. (Ala.), 93 So. R. 636)

The Supreme Court of Alabama, in holding valid Sections 1099, 1101 and 1119 of the code of the city of Birmingham, says that the capacity of dust and flies to transmit or to disseminate disease germs or other infectious matter is generally appreciated. The municipal police power to preserve the public health comprehends the authority to enact ordinances to protect public consumption from the harmful or hazardous consequences of eating food that may become infected through exposure to dust and flies. Section 1099 makes it unlawful to sell or offer for sale any contaminated, adulterated or unfit food intended for human consumption "or any food which has been exposed to dust, flies or vermin." The alternative clause quoted must be referred to "any food" that has been so exposed while under the control or possession of the offender. This clause was not intended to penalize a dealer for exposures to dust, flies or vermin that had been accomplished before the food came into the possession of the local dealer. "Contaminated, adulterated, or unfit" food is forbidden sale by the preceding provisions of the section; hence, the court's conclusion that the section is not unreasonable, oppressive, or otherwise invalid as imposing irrational restraint on the sale of foods. Section 1101 makes it unlawful to maintain or conduct any place where food, milk, ices or beverages are manufactured, prepared, or served, unless all of the doors, windows or other openings are properly screened; provided, however, that screen doors may be kept open if electric fans are effectually used and effectually prevent flies from coming in. Considering Sections 1099 and 1101 together, the exposure to flies that these sections inhibit is not an exposure that contemplates perfect immunity from contact with flies. The inhibited exposure is that which results from failure to observe the provisions of Section 1101, or that which results from unnecessary or unreasonable subjection of articles of food to the contact of flies. So construed, these sections are valid. Section 1119 requires that foods sold or offered for sale be kept indoors, and all doors, windows or other openings be kept closed or screened as provided in Section 1101. This requirement that foods shall be kept inside the building is a reasonable regulation. Its design is to avoid the contaminating effect of dust and flies, an obviously reasonable precaution; and this section is valid. Furthermore, give the valid exercise of the authority to define offenses of the present nature, and to penalize infractions thereof, the ascription of a distinct offense to each day's failure to observe the municipal mandate is, manifestly, a valid exercise of the power conferred.

Damages for Mental Suffering—Injury to Pregnant Woman

(Davis, Agent, v. Murray (Ga.) 113 S. E. R. 827)

The Court of Appeals of Georgia, Division No. 2, holds that there may be a recovery for mental suffering resulting directly from a physical injury. Thus, a pregnant woman, who has, as a result of another's negligence, received a physical injury of such a nature as to produce within her mind a fear and apprehension that she will give birth to a deformed child as a result of the injury, may, whether such deformity actually occurs, recover damages for mental suffering resulting from the injury.

The fetus of a pregnant woman being part of her person, she is entitled to recover for any actual physical injury sustained by the fetus, including mental pain and suffering proximately resulting therefrom. When, as a result of an injury to such fetus, the child is born deformed, the mother is entitled to recover damages, not only for the physical injury, but also for her mental suffering on account of the mortification and disappointment at the birth of a deformed child. The pain and suffering to the mother thus caused may be continued throughout her entire life, and therefore be permanent, and in computing damages for the injury the permanency of the pain and suffering may be considered. The mother, however, cannot recover damages for any mental suffering which she may undergo occasioned by the child's deformed condition continuing after birth, nor for any pain and suffering which the child may undergo.

The foregoing principles of law were properly given in the charge to the jury in this case, in which Mrs. Murray sued for damages claimed by reason of a collision between a train and an automobile in which she was riding at a time when she was pregnant about two months, which was followed seven months' later by the birth of a child with two toes missing from the left foot. Demurrers to the plaintiff's petition were properly overruled. But, since there was no evidence which would authorize the jury to infer that the deformed condition of the child at its birth was caused by the physical injuries received by the plaintiff and alleged to have been inflicted by the defendant, it was prejudicial to the defendant for the court to instruct the jury on the assumption that there was an issue of fact as to whether or not the deformity was caused by the defendant's negligence, and for this reason the judgment obtained by the plaintiff is reversed, and a new trial is awarded the defendant.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Dermatology and Syphilology, Chicago

January, 1923, **7**, No. 1

*Experimental Study of Pathogenic Acid Fast Actinomycete (Nocardia). D. J. Davis and O. Garcia, Chicago.—p. 1.
*Contributory Factors in Postarsphenamin Dermatitis. J. H. Stokes and E. P. Cathcart, Rochester, Minn.—p. 14.
*Infantile Eczema and Examination of Stools. C. J. White, Boston.—p. 50.
*Treatment of Arsphenamin Dermatitis and Certain Other Metallic Poisonings. W. L. McBride and C. C. Dennie, Kansas City, Mo.—p. 63.
Brief for More Accurate Classification of Industrial Skin Disease. C. G. Lane, Boston.—p. 77.
Dermatitis Venenata; Study of Tropical Plants Producing Dermatitis. V. Pardo-Castello, Havana, Cuba.—p. 81.
Case of Lacquer Dermatitis. W. A. Pusey, Chicago.—p. 91.
Resistance of Hair to Certain Supposed Growth Stimulants. M. Trotter, St. Louis.—p. 93.
Report of Committee on Statistics of American Dermatological Association for 1921. S. Pollitzer, New York.—p. 99.

Pathogenic Acid Fast Actinomycete.—The actinomycete described by Davis and Garcia was isolated from a human case. It was acid fast and pathogenic for animals. It belongs in the general group of *Nocardia*. The extracted organism is practically gram-negative and nonacid fast. The extracted fatty substance is acid fast and gram-positive. The organism is pathogenic to rabbits, rats, guinea-pigs and mice. Intravenous injection into rabbits produces typical tubercles in the lungs and other organs, containing characteristic raylike bodies. The organism may show striking conidia-like forms in liquid mediums which may be of value in identification. The antiformin method must be avoided in a suspected case of acid fast actinomycete (*Nocardia*) infestation.

Postarsphenamin Dermatitis.—It has been the experience of Stokes and Cathcart that cutaneous reactions to arsphenamin, in general, are not a function of the amount of the drug administered; and that they show a distinct tendency to occur early in the course of its administration, rather than late. Comparative and direct clinical analysis indicates that postarsphenamin cutaneous reactions have no clinically demonstrable connection with the administration of mercury (except as an external irritant in inunctions); neither do they seem dependent on any renal abnormality or injury detectable by the ordinary laboratory tests. In other words, no clinical evidence was found that arsenic retention due to renal injury by mercury is a cause of arsphenamin dermatitis. In a large proportion of cases there is evidence that chronic focal and acute prodromal or intercurrent infections form a part of the complex on which arsphenamin cutaneous reactions develop. The severity of the cutaneous reactions observed has stood in a rough direct relation to the extent of the infection factor. Circumstantial evidence is submitted which seems to render still more plausible the conception of infection as an important part of the causative background of the exanthematic and exfoliative syndromes complicating the administration of arsphenamin. The authors propose a theory of the mechanism of postarsphenamin dermatitis based on an allergic instability or idiosyncrasy produced either by colloidal changes secondary to arsphenamin injection, especially if accompanied by repeated reaction, or by chronic or sudden absorption of a bacterial sensitizing protein from a focal or acute infection, as the fundamental premise.

Treatment of Infantile Eczema.—The proper use of crude coal tar paste, rightly prepared, with the most conscientious regard to necessary general precautions, White asserts, will cure and cure promptly the great majority of cases of infantile eczema treated in private practice.

Treatment of Arsphenamin Dermatitis.—McBride and Dennie assert that sodium thiosulphate, given intravenously and by mouth, rapidly shortens the course of arsenical dermatitis. It is a successful neutralizing agent for acute and chronic mercurial poisoning. To secure the best results, it must be given intravenously. In its pure form, it is nontoxic up to 2 gm. doses. Certain conditions which impair the liver or kidneys are predisposing factors in the production of arsphenamin dermatitis. Seven cases are reported. Two cases were due to neo-arsphenamin, and one case each to potassium arsenite, arsphenamin, sodium cacodylate, mercuric chlorid and mercuric salicylate.

Boston Medical and Surgical Journal

Jan. 11, 1923, **188**, No. 2

*Value of Animal Experimentation to Physician in His Daily Work. W. B. Cannon, Boston.—p. 30.
*Aspects of Antitoxins in Relation to Animal Experimentation. E. H. Place, Boston.—p. 32.
*What Animal Experimentation had done for Exotic and Tropical Medicine. R. P. Strong, Boston.—p. 33.
*Benefit to Animals of Medical Experimentation. G. H. Parker, Boston.—p. 36.
*How Animal Experimentation has Assisted in Control of Contagious Diseases Among Animals. L. H. Howard, Boston.—p. 37.

Value of Animal Experimentation.—It is very important, says Cannon, that the public should know that the animals used in laboratories for experimental purposes are not treated cruelly or carelessly. To secure relief from pain and disease is the central purpose of medical investigation. In every medical school and in every institute for medical investigation in the United States rules governing the care of animals have been formally adopted—rules providing for the comfort and sanitary surroundings of the animals, and requiring all operations to be approved by the laboratory director. He is held responsible for the problems studied and the methods used in studying them. Further, the rules require that all operations likely to cause greater discomfort than going under an anesthesia shall be done under anesthesia and shall be followed by painless death. Only the director is permitted to make exceptions to these last provisions, and he is allowed to do so only in the rare cases in which anesthesia or death of the animal would defeat the object of the experiment. So confident are the directors of the laboratories that the condition of the animals and the uses to which they are put in medical investigation would be regarded as satisfactory by reasonable people that all the medical schools and medical research institutions in the country have publicly declared that representatives of humane societies may visit the laboratories and see for themselves what is going on.

Relation of Antitoxins to Animal Experimentation.—The lives saved by diphtheria antitoxin since 1895, Place states, are to be numbered by the million. The deaths from diphtheria, due to failure to receive antitoxin or to receiving it too late, in this country alone probably number about 15,000 yearly. It is possible scientifically, even if it may be impracticable, to live in good nutrition and health without the use of animal food. It is, however, absolutely impossible to provide a safeguard of any degree against diphtheria without the use of animals. With this use a thorough, practical means is at hand of removing the diphtheria menace almost completely with the saving of millions of lives, enormous suffering, and great economic loss, and this with less suffering and death of the animals than occur under natural conditions in the life of wild animals.

What Animal Experimentation Has Done for Exotic and Tropical Medicine.—Strong says that there is today, apparently, a great deal of misunderstanding on the subject of animal experimentation. Many people who have become violently opposed to animal experimentation have been brought to their belief by misrepresentation or misunderstanding of facts, or by ignorance. Sincere people are attending and holding meetings or are supporting and even issuing publications in opposition to animal experimentation in general, and are doing so solely because they are really unenlightened on the actual facts in regard to the necessity for animal experimentation in connection with the progress of medicine and the prevention and relief of suffering. Unless there is greater popular education on the subject, unless the general public can acquire a more correct knowledge of the value of animal experimentation in relation to human welfare, Strong says, misrepresentation by the misguided opponents

of animal experimentation and vivisection bids fair to have a clear field, and ignorance and error will be liable to play havoc in the combat for the prevention of disease and the protection of the public from it.

Benefit to Animals of Medical Experimentation.—Whenever preservation measures are undertaken, Parker points out, the knowledge gained by physicians from centuries of observation on human beings and from years of experimental work on animals is immediately made available in bettering the conditions in wild animal life. Wild animals, therefore, profit as much from the advancement of medical science through observation and experimentation as man does himself.

How Animal Experimentation Has Assisted in Control of Contagious Diseases Among Animals.—Veterinary science, on which is based all animal disease control work, according to Howard, depends for its advancement at the present day largely on the new truths which scientific investigators reveal to it, and the day which sees the restriction or prohibition of animal experimentation by competent men will also mark the decline of veterinary science and of the veterinary profession in its chosen field of service to the animal kingdom.

Jan. 18, 1923, **188,** No. 2

Opportunity to Enlighten Hospital Trustees. C. Frothingham, Boston. —p. 57.
Epinephrin Therapy. A. Worcester and D. O'Hara, Waltham, Mass. —p. 58.
What We Owe to Past Investigators for Our Present Methods of Prevention and Treatment of Tuberculosis. E. O. Otis, Boston.—p. 59.
Medicine and Law. H. L. Shattuck, Boston.—p. 63.
Case of Torsion of Greater Omentum. M. A. McIver, Boston.—p. 65.
Preventorium and Its Relation to Tuberculosis in Childhood. R. Clifford, Boston.—p. 66.

Torsion of Omentum.—The main symptom in McIver's case was pain, localized just to the right of the umbilicus. It was sharp and knifelike in character, and did not radiate. There was no nausea or vomiting. The temperature was 102 F. A diagnosis of acute appendicitis was made. On opening the abdomen, an area of necrotic omentum was seen lying just to the right of the incision. At the base was a very definite twist which had evidently cut off the blood supply. The appendix, gallbladder and stomach were perfectly normal. The gangrenous portion of the omentum was resected. The patient was discharged well on the thirteenth day.

Colorado Medicine, Denver

January, 1923, **20,** No. 1

Report of Three Years' Public Health Work of Denver Venereal Disease Clinic, Women's Division. M. C. T. Love, Denver.—p. 5.
Causes and Prevention of Rickets. E. L. Timmons, Colorado Springs. —p. 11.
Pasteur's Influence on Medicine. C. E. Edson, Denver.—p. 15.

Journal of Infectious Diseases, Chicago

December, 1922, **31,** No. 6

*Experimental Study of Methods Available for Enrichment, Demonstration and Isolation of Bacillus Botulinus in Specimens of Soil and Its Products, in Suspected Food, in Clinical and in Necropsy Material. B. J. Dubovsky and K. F. Meyer, San Francisco.—p. 501.
*Distribution of Spores of Bacillus Botulinus in California. II. K. F. Meyer and B. J. Dubovsky, San Francisco.—p. 541.
*Distribution of Spores of Bacillus Botulinus in Soil of a Restricted Area in California. III. G. E. Coleman, Santa Barbara, Calif.—p. 556.
*Distribution of Spores of Bacillus Botulinus in United States. IV. K. F. Meyer and B. J. Dubovsky, San Francisco.—p. 559.
*Distribution of Spores of Bacillus Botulinus in Territory of Alaska and Dominion of Canada. V. B. J. Dubovsky and K. F. Meyer, San Francisco.—p. 595.
*Occurrence of Spores of Bacillus Botulinus in Belgium, Denmark, England, The Netherlands and Switzerland. VI. K. F. Meyer and B. J. Dubovsky, San Francisco.—p. 600.
*Occurrence of Spores of Bacillus Botulinus in the Hawaiian Islands and China. VII. P. Schoenholz and K. F. Meyer, San Francisco. —p. 610.
*Occurrence of Bacillus Tetani in Soil and on Vegetables. VIII. B. J. Dubovsky and K. F. Meyer, San Francisco.—p. 614.
Safe Method for Securing Anaerobiosis with Hydrogen. IX. A. C. Richardson and C. C. Dozier, San Francisco.—p. 617.
*Pathogenicity of Bacillus Botulinus. X. G. E. Coleman and K. G. Meyer, San Francisco.—p. 622.
*Heat Resistance of Spores of Bacillus Botulinus and Allied Anaerobes. IX. J. R. Esty and K. F. Meyer, San Francisco.—p. 650.

Isolation of Bacillus Botulinus.—In this paper Dubovsky and Meyer describe the methods employed for the enrichment and demonstration of *Bacillus botulinus* in specimens of soil and its products. The composition of the medium, the preparation and heating of the samples, the period of incubation and storage, the identification of the toxin and the isolation of the organism from toxic enrichment cultures are discussed and their value considered in the light of numerous experiments. It is emphasized that inexperienced workers should question their results until they eliminate the danger of laboratory contamination by continuous, painstaking vigilance, proper sterilization of the culture mediums, glassware, etc., and by repeated control examination. The methods applicable for the examinations of suspected food, clinical and necropsy material are described in detail.

Bacillus Botulinus in California.—The examination by Meyer and Dubovsky of 624 specimens of soil, vegetables, fruits, feeds, manure and sewage collected in thirty-six counties of California and studied by means of 894 cultures definitely indicates that the spores of *Bacillus botulinus* are very widely distributed. Approximately 30 per cent. of the samples produced toxic cultures; 74.8 per cent. of the identified toxins were neutralized by a Type A; 22.1 per cent. by a Type B, and 3.1 per cent. by a polyvalent antitoxin. The evidence strongly suggests that the natural habitat of *B. botulinus* is found in virgin mountain or forest soil. *B. botulinus* is also present in cultivated garden and field soils and their products. Vegetables and fruits bought in various cities and towns of California carry the spores of *B. botulinus. B. botulinus,* Type B, occurs predominantly in cultivated and manured soils and is probably a mutant of the fixed Type A.

Bacillus Botulinus in California.—It is shown by Coleman that the cultivated soils of a narrow strip of coast line in Santa Barbara County, California, are heavily contaminated with the spores of *Bacillus botulinus,* Type A, as well as with those of *B. tetani* and that the virgin soil from the mountain range behind this strip of land also contains the spores of *B. botulinus,* Type A.

Bacillus Botulinus in United States.—A general survey made by Meyer and Dubovsky, during which 1,538 soil, vegetable, feed and manure specimens of every state of the United States, except Virginia, have been studied for the presence of the spores of *Bacillus botulinus,* reveals that *B. botulinus* is a common soil anaerobe of the Western states of the Cordilleran system. It is less frequently encountered in the Atlantic states and is relatively rare in the Middle states, the great plains and the Mississippi Valley. The soil of the Western states, inclusive of the great plains, yields, mainly, *B. botulinus,* Type A, while the Mississippi Valley and Great Lakes region is characterized by a striking predominance of Type B. Similarly prevalent is this latter type in the Atlantic states of Maryland, Delaware, New Jersey, Georgia and South Carolina, while scattered findings of Type A in Maine, New York and Pennsylvania indicate the existence of breeding places in virgin forests and mountains. Soils which are subjected to intensive cultivation and fertilization contain, as a rule, *B. botulinus,* Type B. *B. botulinus* spores are far more prevalent in virgin and pasture soils than in dirt, soil or manure collected from animal corrals, pig pens, etc. Vegetables, fruits and feeds are frequently contaminated with the spores of *B. botulinus.* String bean pods and leaves, moldy hay, ensilage and decayed vegetation may yield a relatively high percentage of positive cultures. Human and animal botulism is not infrequent in those states in which *B. botulinus,* Type A, predominates, or in which the percentage figures of positive cultures exceeds from 20 to 30 per cent. From a practical standpoint, however, *B. botulinus* is ubiquitous, and this survey gives no assurance that heat resistant spores cannot be found anywhere and at any time. The theory which claims that all the pathogenic anaerobes are regular inhabitants of the intestinal canal of animals, the authors assert deserves renewed investigation in the light of this survey on *B. botulinus.*

Botulinus Spores in Alaska and Canada.—*Bacillus botulinus* has not been demonstrable in the coast land soil of the Aleutian Archipelago. *B. botulinus,* Type A, and occasionally

Type B, has been cultivated in moraine, glacier and mountain soil collected around Lake Louise in the Canadian Rockies. Soil samples obtained from the provinces of Prince Edward Island, Nova Scotia, Quebec, Ontario and British Columbia have also furnished positive cultures.

Botulinus Spores in Belgium and Other Countries.—*Bacillus botulinus*, Type B, has been demonstrated in soil and vegetable specimens collected in Belgium, Denmark, England, the Netherlands and Switzerland. *B. botulinus*, Type A, has been found consistently absent. The spores are widely distributed, but they are neither numerous nor very resistant to heat.

Botulinus Spores in Hawaiian Islands and China.—*Bacillus botulinus*, Type B, is frequently found in the soils obtained from the Island of Oahu, in the territory of Hawaii, and from the provinces of Chilili and Shansi, in China. Type A has been found only in two Hawaiian and in one Chinese soil specimen.

Bacillus Tetani in Soil and on Vegetables.—The spores of *Bacillus tetani* are frequently encountered in well manured, cutivated or garden soil, and on vegetables obtained from several states east of the Mississippi, Switzerland and China. In the United States even virgin forest soil has yielded cultures of *B. tetani*. The soil of the Western states is relatively free from this anaerobe.

Pathogenicity of Bacillus Botulinus.—Coleman and Meyer assert that massive doses of toxin-free spores of *Bacillus botulinus* are pathogenic when introduced into the animal body. These spores and the vegetative forms arising from them are rapidly disseminated throughout the tissues of the body. Toxin-free spores of *B. botulinus* germinate, and the vegetative forms arising from this germination multiply and liberate toxin in the animal body.

Heat Resistance of Bacillus Botulinus Spores.—The heat resistance of *Bacillus botulinus* spores in the juices of seventeen varieties of canned food examined by Esty and Meyer shows a variation from less than ten minutes to 230 minutes at 100 C.

Kentucky Medical Journal, Bowling Green

December, 1922, **20**, No. 12

County and Community Diagnosis Laboratory. V. R. Jones, Shelbyville.—p. 836.
Arteriosclerosis and Hypertension. J. W. Morris, Louisville.—p. 841.
Present Views Regarding High Blood Pressure. F. C. Askenstedt, Louisville—p. 845.
Deafness from Wax Impactions. Three Cases. S. G. Dabney, Louisville.—p. 854.
Partial Report of Examination of Eye, Ear, Nose and Throat of Patients in Eastern Kentucky State Hospital. J. A. Stucky, Lexington.—p. 855.
Case of Pernicious Anemia of Aplastic Type; Remarks on Pernicious Anemia. J. R. Morrison, Louisville.—p. 856.

Missouri State Medical Association Journal, St. Louis

January, 1923, **20**, No. 1

*Arterial Hypertension. L. S. Milne, Kansas City, Mo.—p. 1.
Paralysis Agitans. D. S. Booth, St. Louis.—p. 4.
Scopolamin-Morphin Seminarcosis in Second Thousand Deliveries in Barnes Hospital. O. S. Krebs and L. R. Wilson, St. Louis.—p. 12.
Scarlet Fever. H. B. Norton, Center.—p. 22.
Endocrine Balance. M. L. Sands, Warsaw.—p. 24.

Arterial Hypertension.—Having determined the cause of the hypertension and the extent to which it has caused secondary systemic changes, Milne says that a rational dietary, calculated to support the nutrition and strength of the subject, should be adopted, in addition to the necessary limitation of exercise and various hygienic, psychopathic, eliminative, hydrotherapeutic, electrotherapeutic, and sometimes surgical remedies, administered to combat the etiologic factors involved and to lower the existing state of hypertension and so at least prevent the incidence of the serious terminal events of this disease.

Nebraska State Medical Journal, Norfolk

January, 1923, **8**, No. 1

Epigastric Hernia. A. J. Brown, Omaha.—p. 1.
Focal Infection. A. D. Dunn, Omaha.—p. 5.
Suprapubic and Perineal Prostatectomy; Advantages of Each. E. Davis, Omaha.—p. 9.
Medical Legislation; Public and Doctor. W. H. Wilson, Lincoln.—p. 14.
Twentieth Century Obstetrics—Criticism. A. B. Somers, Omaha.—p. 16.
Chronic Cystic Mastitis. M. Emmert, Omaha.—p. 24.
Peritoneal Infections of Female Pelvis. B. A. Bobb, Mitchell, S. D.—p. 28.

New York Medical Journal and Medical Record

Jan. 17, 1923, **118**, No. 2

Migratory Tumors of Abdomen. A. W. Collins, San Francisco.—p. 65.
Iodin and Iodotherapy Based on New Iodin Preparation. H. J. Novack, Philadelphia.—p. 69.
Biochemical Explanation of Iodin Molecule. P. R. Vessie, Gowanda, N. Y.—p. 74.
Immobility of Diaphragm; Report of Cases of Bilateral Immobility. J. H. Pryor, Buffalo, N. Y.—p. 75.
Rhinologic Surgeon's Position in Diseases of Maxillary Sinus and Relation of Antra to Affections of Other Sinuses. H. M. Hays, New York.—p. 79.
Case of Perisinus Abscess. J. C. Seal, New York.—p. 83.
Suicide Among American Physicians—Its Causes and Suggestions for Prevention. S. A. Knopf, New York.—p. 84.
Significance of Protein Skin Reactions in Bronchial Asthma. M. M. Peshkin, New York.—p. 88.
Fractional Test Meal Method of Rehfuss Versus Single Test Meal of Ewald. M. Golob, New York.—p. 94.
Gallbladder Surgically Considered. H. Cohen, New York.—p. 97.
Aseptic Local Anesthesia as Applied to Anal Region: With Especial Reference to Anesthetic Composition. E. G. Martin, Detroit.—p. 100.
*Thoracic Abdominal Gate. J. J. Rectenwald, Pittsburgh.—p. 102.
Dawn of Surgery. Ritual Mutilations of Primitive Magic and Circumcision. J. Wright, Pleasantville, N. Y.—p. 103.

Thoracic Abdominal Gate.—The object of the instrument devised by Rectenwald is said to be to make a gate or trapdoor for the pleura, lung, stomach, liver, colon, cecum, ovaries, uterus and bladder. By means of this instrument the thorax and abdomen can be opened and closed at will and treatments may be made over an extended period of time without repeated incisions. The conception of the instrument was brought about by Rectenwald's desire to apply radium directly to cancer of the stomach in the form of needles, tubes or plates over an extended period of time and avoiding repeated incisions.

New York State Journal of Medicine

January, 1923, **23**, No. 1

*Use of Schick Test and of Toxin-Antitoxin Injections in Prevention of Diphtheria. W. H. Park, New York.—p. 1.
*Results of Active Immunization with Diphtheria Toxin-Antitoxin in the Public Schools of New York City (Manhattan and the Bronx). A. Zingher, New York.—p. 6.
Gonococcic Vulvovaginitis in Children as a Hospital Problem. E. J. Wynkoop, Syracuse.—p. 7.
Trend of Attitude Toward Heart Disease in Children. G. R. Irving, New York.—p. 11.
*Effect of Quinidin Sulphate on Ambulatory Case of Auricular Fibrillation. W. B. Farnum, New York.—p. 15.
Treatment and Prevention of Certain Mental Disorders. H. A. Cotton, Trenton, N. J.—p. 18.
*The Problem Child. S. R. Leahy, Brooklyn.—p. 23.
Remarkable Freedom from Local Recurrence Following Chemical Removal of Advanced Cancerous Breast. C. W. Strobell, New York.—p. 27.

Use of Schick Test and of Toxin-Antitoxin Injections in Prevention of Diphtheria.—The New York Department of Health has under observation and has indexed 180,000 children, of whom 90,000 have been Schick tested. Of these 90,000 about 60,000 gave the negative Schick test originally; about 20,000 were negative on the retests after the injections of toxin-antitoxin, while about 10,000 of those who were originally positive and who received two or three injections, have either not been retested or, on retest, were found to be positive. During January, February and March, in 90,000 untreated schoolchildren, there occurred fifty-four cases of diphtheria and in 90,000 who had been Schick tested, and when positive were given two or three injections of toxin-antitoxin, there were only twelve cases. Therefore, among 90,000 untreated schoolchildren there developed four and one-half times as many cases of probable diphtheria as developed in the 90,000 tested children. Among 8,200 children who were originally Schick positive and were not retested after the injections, four cases of diphtheria developed. These 8,200 were, as a rule, among the latest to receive the injections. The 1,800 children who in spite of the injections developed insufficient antitoxin to prevent on a retest a moderately

positive Schick reaction, showed the highest incidence of the disease. This result emphasizes the necessity of a Schick test several months after the completion of the injections. Those children who still give the positive reaction should receive a second series of injections. As corroborative of these results, it is interesting to note that during the past six months diphtheria cases and deaths in New York City have been less numerous than ever before. Every effort is to be made to complete the immunization of every school child in New York City.

Results of Active Immunization with Diphtheria Toxin-Antitoxin.—The results of the retests for active immunity in injected children show that with the same mixture of toxin-antitoxin the immunity response in the schools has varied in different groups of children as much as from 21 to 75 per cent. A second series of one or two injections of toxin-antitoxin given at the time of the retest to the children who had failed to become immune after the first series of two injections was followed by the development of an active immunity in from 60 to 80 per cent. of the children so treated. Altogether the children in the various schools who are injected with from two to four doses of toxin-antitoxin developed an active immunity in the proportion of from 70 to 90 per cent. No symptoms of anaphylactic shock were noted with the giving of the second series of toxin-antitoxin injections. There are now being given in the schools three injections of toxin-antitoxin instead of two. The dose is 1.25 c.c. The injections are given at an interval of two weeks instead of one.

Effect of Quinidin Sulphate on Ambulatory Cases of Auricular Fibrillation.—Of twenty-two ambulatory cases of auricular fibrillation reported on by Farnum, only three responded to quinidin sulphate with normal auricular ventricular sequence. Of these three cases, one case remained regular for only a few days. The remaining two cases are still regular, the quinidin sulphate having been given about six weeks ago. In the three cases which became regular, the compensation was not bettered to the extent hoped for or reported by other investigators. In cases with unstable cardiac mechanism, with rapid rate, pulse deficit, and little cardiac reserve, no benefit was derived from the administration of quinidin sulphate. The patients were in some instances made worse. All were glad to return to digitalis, and soon regained their former compensation under that drug.

The Problem Child.—It is Leahy's opinion that the future usefulness of psychiatry lies in preventive measures. These preventive measures, in order to have their greatest effect, must be applied early in the life of the individual when he is still learning to face reality and to emancipate himself from his former egocentricity. This means that the problems presented in the conduct disorders of early childhood are not exclusively disciplinary but often entirely psychiatric.

Southern Medical Journal, Birmingham, Ala.

January, 1923, **26**, No. 1

*Transformation of Intestinal Flora. C. C. Bass, New Orleans.—p. 1.
Problem of Negro Child. J. R. Snyder, Birmingham.—p. 8.
Relation of Radiology to Cancer Control. T. A. Groover, Washington, D. C.—p. 11.
*Case of Epilepsy with Megacolon (Hirschsprung's Disease) and Polymastia. E. B. Block, Atlanta, Ga.—p. 15.
Science vs. Magic in Evolution of Preventive Medicine. S. W. Welch, Montgomery, Ala.—p. 18.
Our Southern Problem. E. G. Williams, Richmond, Va.—p. 20.
Posthospital Care of Surgical Patients. H. H. Trout, Roanoke, Va.—p. 26.
Future of Orthopedic Surgery in South. W. B. Owen, Louisville.—p. 31.
Railroad Surgeon: Present, Past and Future. L. E. Burch, Nashville.—p. 33.
*Torsion of Appendices Epiploicae; Report of Case. S. O. Black, Spartanburg, S. C.—p. 35.
Certain Anatomic and Physiologic Considerations Bearing on Heterophoria. W. B. Lancaster, Boston.—p. 38.
*Dermoid of Conjunctiva; Report of Case. C. M. Miller, Richmond, Va.—p. 42.

Transformation of Intestinal Flora by Lactose.—Bass again calls attention to his work with lactose given to transform the intestinal flora. Daily ingestion of sufficiently large amounts of lactose results in rapid increase of *Bacillus acidophilus* and in due course of time, if the quantity is sufficient, all other bacteria in the intestinal flora are reduced to a negligible quantity. In some instances, however, it required more than 300 gm. of lactose per day to establish *Bacillus acidophilus* as the predominating organism. Unfortunately the quantity of these sugars necessary is too large to be continued over long periods of time, hence the practical application of this method must be very limited. The researches made by Bass on the use of cultures of *B. acidophilus* for therapeutic purposes, including a large number of experiments on twenty-three different human subjects, have yielded results which practically agreed with those of Rettger and Cheplin. A note of warning is sounded against making the same kind of mistake with *B. acidophilus* that was made with *B. bulgaricus*. Already enthusiastic workers have reported most striking therapeutic results from the administration of broth cultures of *B. acidophilus* in teaspoonful doses, only a small fraction of the amount of culture that others have found necessary to change noticeably the intestinal flora. Commercial interests have already placed on the market *B. acidophilus* in the form of tablets, capsules and liquids, and physicians are prescribing them. Bass examined some of these preparations to determine the number of viable *B. acidophilus* contained therein. In the instance of tablets, none of those examined was found to contain as many as 1,000 viable bacteria of any kind per tablet. If it should be granted that all the viable bacteria present were *B. acidophilus*, it would take more than 1,000,000,000 tablets, or more than 20 tons, to contain as many bacilli as are contained in 1,000 c.c., or the usual daily dose, of the acidophilus milk, the quantity found, by most investigators at least, to be necessary to transform the flora. Bacteria were more numerous in the commercial liquid cultures examined. If they were all *B. acidophilus*, a patient would have to drink 7 or 8 gallons daily to get as many as he would in 1,000 c.c. of the acidophilus milk culture. Only fresh cultures produced according to the proper bacteriologic methods should be used.

Epilepsy with Megacolon and Polymastia.—Discussing the etiology of epilepsy, three possibilities are considered by Block: (1) epilepsy and megacolon may represent (equally) evidence of defective development of the nervous system; (2) the megacolon by pressure may produce an alteration in the cerebral circulation; and (3) the resulting constipation from megacolon may furnish a toxic cause for convulsions in those predisposed to them. In the case reported no other physical defect could be found except polymastia, a convolutional atrophy of the skull, from apparent pressure, but without the usual symptoms of pressure being present, full tortuous veins in the right fundus, and the megacolon. While the last was not of the extreme degree found in many of the published reports and fatal cases, it is still sufficient to produce abdominal distension, tympany, and constipation, and Block says must be regarded as pathologic. The occurrence of polymastia, Block says, must be regarded as a stigma of degeneration, but whether such atavistic phenomena should be regarded as evidence of physical strength or weakness is undecided. The conclusion reached by Block in regard to his case is that increased intra-abdominal pressure caused a gradual increase in intracranial pressure, which in turn caused a convolutional atrophy of the skull, and tortuous veins of the right retina.

Torsion of Appendices Epiploicae.—Black asserts that only sixteen cases of true torsion of the appendices epiploicae within the abdominal cavity have been reported in the literature. He adds one case. A man, aged 60, after serving as an active pallbearer at the funeral of a friend whose casket was very heavy, suddenly felt a rather severe pain in the mid left region of the abdomen, which disappeared almost immediately. Four or five hours later he felt an indefinite soreness through the left lower abdominal region which disappeared on recumbency. He slept soundly and awakened the following morning feeling well. He had not long been out of bed before the soreness returned about 2 inches to the left of, and 2 inches below, the umbilicus. A tedious job and a long automobile trip aggravated the discomfort. The following morning the soreness was lessened, but that afternoon

it returned, became rather severe, and the man went to bed. At 9 o'clock the next morning he felt perfectly well, but the leukocyte count was 9,000. At 3 p. m. the leukocyte count was 10,000 and there was unquestionable tenderness on pressure over the left middle and lower abdominal regions. The next day, at about 10 a. m., the fourth day since the onset, the temperature was 99 F., the white blood cells numbered 11,200, and the soreness and tenderness had distinctly localized over a point on the left side corresponding to McBurney's point on the right. It looked like a typical left sided appendicitis. It was decided to operate. Lying immediately beneath an edematous peritoneum, almost completely encompassed by the left border of the omentum, was a large bluish black mass the size of an orange. It was rapidly becoming gangrenous and when isolated was found to be an appendix epiploica, attached to the lower portion of the descending colon. Its pedicle was twisted several turns on itself.

Dermoid of Conjunctiva.—In Miller's case the family history and personal history were negative. A few weeks after birth, the child's parents noticed a growth under the left eyelid. A short time later a hair or two projected under the lid and these continued to grow in length and increase in number until there were six or seven long black hairs growing from under the lid. These hairs grew rapidly and were frequently cut to prevent their hanging too far down on the face, but they were always left sufficiently long for the cut ends to project beyond the lids. The tumor was removed. It contained a yellowish fluid, and a small bony mass the shape and size of the crown of a canine deciduous tooth.

Texas State Journal of Medicine, Ft. Worth

December, 1922, **18**, No. 8

Chronic Nontuberculous Lung Diseases. W. W. Watkins, Phoenix, Ariz.—p. 396.
Pulmonary Abscess. J. N. White, Texarkana.—p. 398.
Indications and Contraindications for Artificial Pneumothorax in Pulmonary Tuberculosis. A. E. Greer, Houston.—p. 400.
Tuberculosis Responsibility. H. L. Wilder, Clarendon.—p. 402.
*County Sanatoria for Far Advanced Consumptives. J. B. McKnight, Sanatorium.—p. 405.
Relationship Between Chronic Suppuration, Nasal Sinusitis and Pulmonary Infections. E. M. Sykes, San Antonio.—p. 408.
*Administration of Antitoxin in Early Treatment of Diphtheria. L. M. Whitsitt, Ft. Worth.—p. 410.

Hospitals for Advanced Cases of Tuberculosis.—The hospital for advanced cases of tuberculosis in McKnight's opinion should be so situated, constructed and managed, as to draw from the community the vast number of advanced cases spreading infection in family circles, in addition to the group of homeless or near-homeless forming at present the bulk of cases in such institutions. In the interest of the community, as well as of the individual patient, the admission of these cases to an institution should come early in their course. With the right arrangement and regimen, calculated to relieve suffering and lead, where possible, to improvement or arrest of the process, the hospital for advanced cases is bound to win rapidly the support of the medical profession and the community, and become a powerful agency in the fight for the suppression of the disease.

Prevention of Diphtheria.—Whitsitt emphasizes that the mortality would be materially reduced if physicians would insist on a more hygienic condition of the nose and throat, removal of enlarged tonsils and adenoids, keeping away from poorly ventilated public places, especially during the fall, winter and early spring, when catarrhal conditions are more common. The use of the Schick test and the establishment of a prolonged immunity by the use of toxin-antitoxin, and the universal use of antitoxin in all exposures, will prove specifically prophylactic. It will never be possible, Whitsitt believes, to lower the mortality from diphtheria by elimination, as has been accomplished in typhoid and yellow fever, because of the great number of carriers. While diphtheria is contagious to the nonnatural immune, he is of the opinion that a large percentage of cases in children between the ages of 1 and 2 years, are of auto-infectious origin, because they are carriers, and at the first opportunity presented, which is caused by a catarrhal throat or nose, the germs become active.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Annals of Tropical Medicine and Parasitology, Liverpool

December, 1922, **26**, No. 4

*Unusual Type of Nodular Leprosy in Sudan. R. G. Archibald.—p. 341.
Ancylostoma Braziliense. C. Lane.—p. 347.
Intra-Uterine Infection with Ancylostoma Caninum in Dogs. S. Adler and E. J. Clark.—p. 353.
Cestodes from Indian Birds; Ligula Intestinalis. T. Southwell.—p. 355.
*New Malaria Parasite of Man. J. W. W. Stephens.—p. 383.
Bionomics of Stegomyia Calopus, Meigen, in Brazil. C. J. Young.—p. 389.
Occurrence of Larvae of Onchocerca Volvulus (Leuckart, 1893), in Skin of Natives of Gold Coast. J. F. Corson.—p. 407.
Case of Sleeping Sickness (T. Gambiense) Treated by "Bayer 205." J. W. W. Stephens and W. Yorke.—p. 421.
Bionomics of Stegomyia Calopus, Meigen, in Brazil. Part II. R. M. Gordon.—p. 425.
*Rôle of Cockroaches in Disease. J. W. S. Macfie.—p. 441.
Occurrence of Xenopsylla Astia, Roghs., in West Africa. A. M. Evans.—p. 449.
*Case of Blackwater Fever. A. Patrick.—p. 451.
Case of Trypanosomiasis. A. J. Mackenzie.—p. 457.
Onchocerca Volvulus. J. W. S. Macfie and J. F. Corson.—p. 459.
New Species of Filarial Larva Found in Skin of Natives in Gold Coast. J. W. S. Macfie and J. F. Corson.—p. 465.

Unusual Type of Nodular Leprosy in Sudan.—In the case reported by Archibald, the eruption apparently commenced on the face in the form of small shotty papules, similar ones eventually appearing on the forehead, ears, trunk and upper and lower extremities. The eruption caused little or no inconvenience. On examination, it was found that the skin of the face, neck, anterior and dorsal aspects of the trunk, and the flexor and extensor aspects of the arms and legs showed numerous miliary papules varying from 0.3 to 0.5 cm. in diameter. The majority of these lesions were discrete, with a smooth surface, circular contour, pink color, and of a shotty consistency; some of them showed a slight inflammatory reaction at the base. In certain areas, more especially on the neck and arms, many of the papules showed a circular depression or umbilication in the center, while others showed simply a pale central area. No pustulation was noted. The largest lesions were on the face, and here the majority of them were discrete, whereas those on the ears had coalesced and caused considerable thickening of the tissues, producing an appearance not unlike that of hematoma auris. Papules were also present over both superciliary regions, where a slight degree of madarosis was noted. The skin of the arms was more affected than that of the lower extremities, both flexor and extensor aspects being involved. The intervening portions of the skin presented no abnormalities, except in a few areas on the face where there was a certain degree of erythema. No nodules or ulcers were detected in the buccal mucous membrane; but the posterior fauces and larynx were slightly inflamed. The submaxillary and axillary lymph glands were slightly enlarged and firm on palpation. The diagnosis was made only when microscopic examination of hematoxylin-eosin stained preparations showed numbers of acid-fast bacilli, morphologically resembling leprosy bacilli.

Plasmodium Ovale: New Malaria Parasite.—The characteristics of the parasite found by Stephens, so far as concerns the medium forms, are: a nonameboid, pigmented, compact, round or oval parasite, resembling the quartan form, in a red cell showing Schuffner's dots, which is either normal in size or only slightly enlarged. The pigment, so far as can be judged in stained specimens, appears to be brownish black, and granular rather than spicular. A double infection of a red cell was only seen once. No forms that could be interpreted as gametes were seen. This parasite appears to resemble that found by Ahmed Emin in 1914 in the case of six pilgrims at Camaran in the Red Sea, and figured and described by him as *Plasmodium vivax*, var. minuta. Stephens proposes to term his organism *Plasmodium ovale*.

Rôle of Cockroaches in Disease.—The following organisms appeared to pass unharmed through the intestine of the cockroach, *Periplaneta americana: Bacillus tuberculosis, B. leprae,*

cysts of *Endameba histolytica, E. coli* and of an endameba of a monkey resembling *E. coli*, cysts of *Giardia intestinalis*, and eggs of *Ancylostoma duodenale, A. ceylonicum, Necator americanus, Ascaris lumbricoides, Trichuris trichiura, Taenia saginata*, and *Schistosoma haematobium*. On the other hand, gonococci, *Endameba histolytica, E. coli*, and an endameba of a monkey resembling *E. coli* (in the vegetative stages), eggs of *Aphiochaeta xanthina*, and, in two experiments each, *B. typhosus, B. paratyphosus* B, and *B. dysenteriae* (Flexner Y) were not recovered in the feces of cockroaches after experimental feeding. No evidence was obtained that any of the organisms used in the experiments established themselves as parasites in the intestine of the cockroaches.

Case of Blackwater Fever.—A case is described by Patrick in which hemoglobinemia was marked. The blood urea was found to be much increased after a short period of anuria.

British Medical Journal, London

Jan. 6, 1923, **1**, No. 3236

Acute Constitutional Symptoms Due to Radiations. H. Rolleston.—p. 1.
*Investigation of Dyspeptics. J. Ryle.—p. 5.
*Further Clinical Experience with Insulin in Treatment of Diabetes Mellitus. F. G. Banting, W. R. Campbell and A. A. Fletcher.—p. 8.
*Possible Mode of Causation of Diabetes Mellitus. L. B. Winter and W. Smith.—p. 12.
*Vitamin Content of Certain Proprietary Preparations. K. H. Coward and A. J. Clark.—p. 13.
*Apituitarism and the Anencephalic Syndrome. D. L. Barlow.—p. 15.
*Purpura Treated by Injection of Human Blood. M. Dixon.—p. 16.
*Treatment of Epilepsy. J. McCartney.—p. 16.
*Trauma and Appendicitis. C. J. G. Taylor.—p. 17.
Variations of Normal Temperature. H. H. Haward.—p. 17.

Investigations of Dyspeptics.—Ryle does not believe that there is, or ever will be, a place in medicine for such a specialism as gastrology. Probably less than one third of all chronic dyspepsias are due to disease of the stomach, and even in many of these the primary factors have been situated elsewhere. The introduction of chemical and radiographic diagnostic methods has been of inestimable value, but the chief value of these methods, Ryle believes, will finally be in the direction of helping to make a better interpretation of symptoms and so to become more skilled at clinical diagnosis. Early and accurate diagnosis is the first essential for adequate treatment. Early diagnosis depends on appreciation of possibilities and causes and on good clinical sense; accurate diagnosis, in many of the dyspepsias, can be arrived at only with the aid of routine investigations.

Insulin Treatment of Diabetes Mellitus.—A general plan of investigation and treatment of patients has been adopted provisionally by Banting and his associates to determine those patients who require treatment with insulin and the requisite dosage to be employed. On admission to hospital the history and physical condition of each patient is investigated. Patients admitted in coma or in the precomatous state, whether of the accidental type, occurring with a good carbohydrate tolerance, or as a sequel to slowly deteriorating carbohydrate tolerance, are immediately given insulin treatment. For other cases a diet based on the normal basal calory requirement for the age, height, weight and sex of the patient is calculated. This diet contains sufficient protein to maintain nitrogenous equilibrium, and carbohydrates and fats in such a ratio as to avoid the excessive production of acetone and diacetic acid. Having patients fast for a day has helped to attain constancy of sugar excretion more rapidly. Patients are kept in bed for a variable period following admission to hospital, and afterward only light exercise is permitted. Examinations of the blood and urine are carried out daily for a period of a week or more. At the end of this period on a constant diet the patients who are sugar free are advised to continue dietetic treatment in view of the shortage of insulin. Those who are showing decided glycosuria and hyperglycemia, with possibly various degrees of acidosis in addition, are selected for insulin treatment. Having a preparation of insulin known to be potent and to contain approximately one unit to 1 c.c. according to the pharmacologic assay, the patient is given an amount calculated to be somewhat less than that required to render the urine sugar free. Insulin is administered, according to the amount required, in one, two, or three doses, at or shortly before meals. Subcutaneous injection is the method of choice. By examination of the urine at short intervals it is determined approximately when the patient becomes sugar free, and the subsequent dosage is adjusted to maintain this condition. Special care is taken that the food consumed by each patient is appetizing in appearance, palatable to the taste, and well served. Complete records are kept of twenty-four hour specimens of urine, which is collected in the usual manner, and examined qualitatively and quantitatively for sugar, acetone, diacetic acid and total nitrogen, and the usual routine tests are made for volume, specific gravity, albumin, and character of the sediment. Up to the present time more than fifty cases of diabetes mellitus have been treated with insulin, and some have been under treatment continuously for several months. Although the most striking results have been seen in children and young adults, all patients have been benefited by the treatment. Under treatment with insulin, in patients who are not otherwise amenable to treatment, (*a*) glycosuria is abolished; (*b*) ketones disappear from the urine and the blood; (*c*) blood sugar is markedly reduced and maintained at normal levels; (*d*) the alkali reserve and alveolar carbon dioxid of patients suffering from acidosis and in a state of coma return to normal; (*e*) the respiratory quotient shows evidence of increased utilization of carbohydrates; (*f*) the cardinal symptoms of diabetes mellitus are relieved and the patients show marked clinical improvement. Insulin is a specific in the treatment of diabetic coma. Certain procedures are suggested as a guide in its administration. Hypoglycemic reactions in man have been studied. Hypoglycemic reactions following insulin are relieved by the administration of carbohydrates and also by the injection of epinephrin.

Cause of Diabetes Mellitus.—It has been shown by Winter and Smith that the normal blood sugar in man and animals has a lower rotatory power than would be given by the α-β equilibrium form of glucose as deduced from the copper reduction value. Various facts mentioned suggest that normal blood sugar is gamma glucose. That ingested glucose or fructose is rapidly converted into normal blood sugar was shown by feeding experiments on normal persons. After administering from 100 to 150 gm. glucose or fructose no alteration in the nature of the blood sugar could be detected. In cases of diabetes mellitus this sugar is not present in amounts susceptible of detection by the method employed. The polarimeter reading in these cases is initially greater than the copper reduction value, and the curve gradually falls until the copper value is reached. This suggests that besides α-β glucose, disaccharids or other substances with a polarimeter: copper reduction ratio greater than that of α-β glucose are present in the blood of diabetic persons. The author suggests that α-β glucose cannot be directly stored or utilized, but that an enzyme is responsible for the conversion of α-β glucose into gamma glucose. The absence or inactivation of this enzyme is suggested as the direct cause of diabetes mellitus.

Vitamin Content of Certain Proprietary Preparations.—The vitamin content of certain well known proprietary preparations which are advertised in the medical press as containing vitamins was investigated by Coward and Clark. The preparations tested contained vitamins A and B, except in one instance in which case the tests failed to show the presence of vitamin A in the quantities tested. A comparison between the vitamin content of the proprietary preparations and the vitamin content of those ordinary foods which are rich in vitamins shows that the former contain less vitamins than the latter. The vitamin A content of the proprietary foods was in all cases less than that of butter obtained from grass fed cows, and less than one hundredth that of active specimens of cod liver oil. The vitamin B content of the proprietary foods was in all cases less than that of wheat germ or of yeast. None of the preparations is considered to be a substitute for cod liver oil as a source of vitamin A, for in no case does the total daily adult dose of the proprietary food contain as much as one tenth of the vitamin A content of a teaspoonful of cod liver oil.

Apituitarism and Anencephalic Syndrome.—Four anencephalic fetuses were examined by Barlow. In each instance the anterior (pharyngeal) portion of the pituitary gland was found without much difficulty in its usual situation and resting on the body of the sphenoid. In none of the cases was any real attempt at the formation of a sella turcica apparent, though the gland was of a size approximating that in a normal full time fetus. In one instance a process of apparently neuroglial tissue, probably representing the pars nervosa, was found; and it is noteworthy that this was the only one examined comparatively soon after delivery. In all cases microscopic sections displayed a structure corresponding with the epithelial segment of the pituitary body—namely, strands of polygonal cells with somewhat granular protoplasm and rounded nuclei, separated by a loose connective tissue, in which were abundant thin walled vessels. From the position and structure of these glands Barlow has no doubt that they represent the epithelial portions of the pituitary. As a result of the discovery of the anterior segment of the pituitary gland in four successive typical examples of the anencephalic syndrome, Barlow thinks it may be concluded that the other features of the condition are certainly not due to apituitarism, and that any conception of the functions of the gland based on such an assumption is erroneous.

Purpura Treated by Injection of Human Blood.—The success of the treatment of hemorrhage of the new-born by injection of parental blood suggested to Dixon the use of the same method in purpura. The result has been most encouraging. Dixon has injected from 2 to 5 c.c. of blood, taken from the brachial cephalic vein, into the gluteal muscles. Clotting is prevented by sterilizing the syringe and needle in a solution of magnesium sulphate. The method has been used in four cases, with gratifying results in all, and in the very early cases with complete abortion of the attack.

Treatment of Epilepsy by Potassium Bromid and Borax.—Eighteen patients have been treated by McCartney by this method. He found that he obtained the best results with potassium bromid, 15 grains; borax purificatus, 7½ grains; Fowler's solution, 2 minims; three times daily. The changes noted in the condition of the patients were: (1) marked general mental improvement; (2) freedom from stupor after convulsions; (3) disappearance of irritability and quarrelsome tendencies; (4) complete change of habits. The continuous treatment has had no deleterious effect on the health of the patients.

Trauma and Appendicitis.—In both of the cases reported by Taylor the attack was definitely ushered in by violence—in the one by a direct blow on the abdomen, in the other by a severe strain.

Journal of Laryngology and Otology, Edinburgh

January, 1923, **38**, No. 1

Present Status of Radium in Laryngeal and Esophageal Cancer in United States. H. H. Forbes, New York.—p. 1.
Septic Sinus Thrombosis: Diagnosis and Treatment. W. Milligan.—p. 9.
Identification of Larvae of Diptera (Flies) Which Cause Nasopharyngeal and Aural Myiasis in Man. W. S. Patton.—p. 18.
Spasmodic Rhinitis: Critical Review. St. C. Thomson.—p. 28.

Medical Journal of Australia, Sydney

Dec. 16, 1922, **2**, No. 25

*Basal Metabolic Rates in Exophthalmic Goiter. R. L. T. Grant.—p. 697.
Chronic Suppurative Otitis. H. M. Jay.—p. 704.
Postgraduate Work in Europe. J. W. D. Hooper.—p. 707.
Uterovesicovaginal Fistula. H. Bullock.—p. 709.

Partial Thyroidectomy Better than Medical Treatment of Exophthalmic Goiter.—The basal metabolism of ten cases of exophthalmic goiter and one case of toxic goiter was studied by Grant. In every case the basal metabolic rate was raised above the standard accepted as the normal average when taken prior to any active treatment. From observation of these cases Grant is convinced that the medical treatment of exophthalmic goiter is unsatisfactory and that the best results are given by removal of part of the affected gland. The majority of the patients in this series had their operation performed under local anesthesia, procain being used.

South African Medical Record, Cape Town

Dec. 9, 1922, **20**, No. 23

The Legal Case. S. V. Elliott.—p. 449.
Control of Malaria in South Africa. G. A. P. Ross.—p. 450.
Case of Late (Tenth Day) Postpartum Eclampsia. H. B. Walker.—p. 458.
Undulant (Malta) Fever in South Africa. D. P. Marais.—p. 459.
Modern Treatment of Asthma. A. Bloom.—p. 464.

Annales de Médecine, Paris

December, 1922, **12**, No. 6

*Hirschsprung's Disease. R. Bensaude and P. Hillemand.—p. 425.
*Treatment of Rheumatism. M. Roch and S. Katzenelbogen.—p. 463.
*Secretin. K. Djenab.—p. 475.
*Diabetes Insipidus. Lortat-Jacob and Turpin.—p. 480.

Megacolon.—Bensaude and Hillemand review the question of megacolon. The diagnosis of typical cases is not difficult: extreme constipation; great enlargement of abdomen; characteristic roentgenograms; the tumor presents peristaltic movements at times; and the rectum, which is usually empty, will retain 2 or 3 liters of enema without discomfort. Some cases may give clinical signs of pneumothorax. Medical treatment should be tried, although it is usually without success. Surgery gives better results. Ileosigmoidostomy is comparatively easy and may be sufficient. Colectomy is dangerous, yet may insure a final cure.

Treatment of Rheumatism with Casein.—Roch and Katzenelbogen gave intramuscular injections of 0.5 to 2 c.c. of a 10 per cent. solution of casein repeated after four or five days, in twenty-six cases of rheumatism. The best results were obtained in acute cases. Subacute cases sometimes were also influenced favorably. One case of sciatica recovered perfectly. They advise this protein therapy only as supplementary to salicylic medication, not in its place.

Secretin.—Djenab found that secretin from the deep layers is more efficient than from the superficial layer of the mucosa. The action is much weaker if it is injected into a mesenteric vein and thus passes through the liver. Injections into arteries are also less effective than into the saphenous vein. Feeding animals with fats increases the amount of secretin.

Diabetes Insipidus.—Lortat-Jacob and Turpin give an extensive review of diabetes insipidus.

Bulletin de l'Académie de Médecine, Paris

Dec. 12, 1922, **88**, No. 41

*Tuberculosis and Pregnancy. E. Sergent.—p. 466. Idem. V. Wallich.—p. 477.
*Medicolegal Aspect of Therapeutic Abortion. V. Balthazard.—p. 480.
*Herpes Zoster. G. Marinesco.—p. 487.
"Knock-Out" and War Psychoses. L. Livet.—p. 501.
*Organotherapeutic Action of Milk. Cassoute.—p. 503.
The Prizes Offered by the Académie.—p. 506.

Tuberculosis and Pregnancy.—Sergent emphasizes that there are two principal types of tuberculosis to be considered. In one the tuberculosis was present before the pregnancy, in the other it became manifest during pregnancy or after delivery. In the first type three varieties can be distinguished: (1) Clinically recovered cases in which the infection flares up during the first weeks of pregnancy. Usually the women are young. An early abortion saved the lives in three such cases in Sergent's experience. In another case a pregnancy, occurring against his advice three years after an affection of an upper lobe, had been allowed to come to term, because the woman never felt as well as during the pregnancy. Ten days after delivery, the tuberculous process in the lungs was relighted and the patient succumbed in two months. (2) Cases with active, but stationary lesions. These women, contrary to the first variety, are usually over 30 or 35 years of age. They appear to have adapted themselves to tuberculosis. These cases form the bulk of the statistics, which show that some women, even with lung cavities, can endure several pregnancies. (3) Women with active tuberculosis which becomes more acute with the pregnancy. There is no indication for abortion in these cases, because death is inevitable. The second principal type includes women with latent tuberculosis, in which distinct clinical signs did not appear before gestation. In unilateral cases, pneumothorax may be of use. Bilateral cases die. If the signs start after

delivery, the prognosis is comparatively good. Sergent insists on the frequency of tuberculosis in pregnancy. In his private practice, in almost 26 per cent. of eighty-nine tuberculous women, tuberculosis appeared less than ten months after delivery. In two thirds it was the first pregnancy. It is impossible to dogmatize; case must be considered individually.

Tuberculosis and Pregnancy.—Wallich points out that even the optimists are not in reality optimistic about the relation of pregnancy to tuberculosis. Obstetric statistics are not reliable, because tuberculous pregnant women are usually sent to the medical clinic to avoid exposure of healthy mothers and infants.

Medicolegal Aspect of Therapeutic Abortion.—Balthazard discusses the medicolegal questions arising from the fact that the French law prohibits every interruption of pregnancy. After discussing several theories, he agrees with those who see the legal foundation of therapeutic abortion in a state of necessity, the life of the mother being in extreme danger. The French law allows the physician to make any intervention which aims to cure the patient. He believes that this is better than the laws of other countries where the conditions for therapeutic abortion are specified. The French custom is to call a consultation before the abortion is done. He recommends this custom, but is opposed categorically to a law compelling it and especially any obligation to report it to magistrates. Such a law might protect the physician against trouble, but it would cause violation of professional secrecy and disadvantage to the patient.

Herpes Zoster.—Marinesco confirms the results of Lipschütz who found it difficult to inoculate the cornea of rabbits with herpes zoster. He classes the disease among the neurotropic epithelioses, and believes the virus is propagated along the nerves. The eruption is not a mere cutaneous trophic lesion, but a localization of the virus.

Organotherapeutic Action of Milk.—Cassoute points to the fact that symptoms of cretinism do not develop as long as the infant is nursed, and believes therefore that an important part of the value of unsterilized milk is a combination of the fresh products of all the endocrine glands.

Dec. 19, 1922, **88**, No. 42

*Discussion on Tuberculosis and Pregnancy. L. Bernard et al.—p. 579.
Partial Aphemia in a Case of Nephritis. E. Lenoble.—p. 606.
*Ulcers of Ileum. Mériel.—p. 613.
Photomicrography. G. Durante.—p. 616.

Continued Discussion on Tuberculosis and Pregnancy.—In this great debate, Bernard shares the view of those who oppose the optimism of Dumarest and Brette. He agrees that pregnancy has a bad influence on tuberculosis, but his statistics show that about half of the tuberculous women survive pregnancy. If a tuberculous woman becomes pregnant, the main question is whether abortion will stop the progress of the tuberculosis. There is no evidence to prove this. Unilateral tuberculosis may be arrested by pneumothorax. Bar explains some points, quotes some cases, and draws parallels with similar debates during the last century. He compares abortion in tuberculosis to extirpation of a pregnant uterus for cancer. The change in regard to abortion in management of contracted pelvis has been due to the good results of asepsis in cesarean section. The end of the present question will be similar.

Ulcers of Ileum.—Mériel describes a fatal case of ileus after posterior gastro-enterostomy in a robust man. The operation was performed although there were only indistinct symptoms. The ileus was due to fixation of an ulcer in the lower ileum to the posterior surface of the bladder. The ulcer perforated during the second operation.

Journal de Chirurgie, Paris

November, 1922, **20**, No. 5

*Stomach Complications of Diaphragmatic Hernia. G. G. Moppert.—p. 453.
*Encysted Hematoma of the Spleen. Lombard and Duboucher.—p. 464.

Gangrenous Perforation of the Stomach as a Complication of Diaphragmatic Hernia.—Moppert reports three cases of diaphragmatic hernia with gastric perforation, which, while presenting different aspects of the condition, have many points in common and afford sufficient details for a study of the clinical history of this affection.

Encysted Hematoma of the Spleen. — Lombard and Duboucher describe in a man, aged 44, who had suffered from malaria, off and on, since childhood, a hematoma of the spleen, which had been enlarged for years. The development of the tumor had not been preceded by traumatism but coincided with a severe attack of the malarial infection. It proved to be an encysted hematoma, but it had no cellular lining on its internal surface, which was formed solely of connective tissue, and indicated inflammatory reaction. The changes in the tissue of the spleen adjoining the cyst proved that the process was old.

December, 1922, **20**, No. 6

*Treatment of Tuberculous Spondylitis. J. Calvé and M. Galland.—p. 565.
Inguinal Hernia after Appendicectomy. Oudard and Jean.—p. 584.

Treatment of Tuberculous Spondylitis.—Calvé and Galland applied the Albee implant in 5 men and 3 women, and the Hibbs method in 6 men. The Calvé method of osteosynthesis was applied in 2 other cases. All were adults, and the tuberculous spondylitis had reached the phase of apparent cure. Reexamination from one and a half to three years later revealed that the hump had become more pronounced in two cases, and in 2 others the abscess had returned. In 2 others pains in the roots persisted. Consequently the operation can be considered a success only in 13 cases, and in nearly all of these a celluloid jacket had been worn for two years after the operation. The implant method has proved a failure in children, and it is not needed for well-to-do adults who are not liable to be called on for violent efforts. They should wear a celluloid jacket for life. But for laboring men and women the implant method has advantages; it should be supplemented with the supporting jacket. The 16 cases are reported in detail; 11 cases were repeatedly reexamined with the roentgen rays. The only instance of the Albee operation on a child was done by Albee himself. No supporting jacket was worn, and the implant fractured at the end of eight months. Suppuration then flared up anew and proved fatal.

Presse Médicale, Paris

Dec. 9, 1922, **30**, No. 98

*Tar Cancer. G. Roussy et al.—p. 1061.
*Transolecranon Operations. H. Vulliet.—p. 1065.
*Treatment of Human Anthrax. L. Cheinisse.—p. 1066.

Tar Cancer.—Roussy, Leroux and Peyre applied tar to 509 mice. They publish their results with illustrations and describe the evolution of the lesions. Metastases were rare and usually affected the lungs.

Transolecranon Operations. — Vulliet shows the great advantages of the transolecranon method in the operative treatment of certain injuries of the elbow.

Treatment of Human Anthrax.—Cheinisse reviews different methods of treatment of human anthrax as published in different countries. He cites in particular Vaccarezza's favorable experience with protein therapy, summarized in THE JOURNAL, Sept. 23, 1922, p. 1085. One or two intramuscular injections of 30 c.c. of a 5 per cent. solution of Witte's peptone daily seemed to give good results (6.77 per cent. mortality in fifty-nine cases).

Dec. 13, 1922, **30**, No. 99

*Hepatic Insufficiency. A. Chauffard.—p. 1073.
*General Endocrine Symptoms. A. Sézary.—p. 1075.

Hepatic Insufficiency.—Chauffard recalls his maxim of 1890: The diagnosis is drawn chiefly from physical signs and the prognosis from chemical signs. He reviews all the signs of hepatic insufficiency, starting with alimentary glycosuria. A very typical behavior of these cases consists in an intermittent excretion of sugar, bilirubin, and methylene blue. The proportion of urea nitrogen to total nitrogen in the urine is normally 0.82 to 0.95. In pathologic cases it is lower, and goes even below 0.50 in phosphorus intoxication. Since this coefficient depends also on the quality of the kidneys, Brodin replaced it by the azotemic coefficient which

is about 0.8. The nonprotein nitrogen in the serum increases in hepatic insufficiency to 0.2 or 0.25. Widal's colloidoclastic test shows an insufficiency of the proteopexic faculty of the liver. Roger showed that the antitoxic action of the liver depends on its glycogenic function. Instead of starving the patient before general anesthesia, it is better to give him carbohydrates for protection against toxic icterus. The different opinions on the genesis of urobilinuria do not diminish the clinical value of this excellent sign of hepatic insufficiency. Besides these general signs there are others of a more special nature, which may become important in the clinical diagnosis. The liver retains considerable amounts of uric acid during digestion of food rich in purins. Cholesterin is excreted by the bile, partly as such and partly in the form of cholalic acid. In gallstone disease, the bile contains much cholesterin and little biliary acid. This may explain the precipitation of cholesterin and the formation of stones. The liver is fundamentally an organ which fixes substances which pass through it. The fixation of proteins (proteopexy) is proved, but that of amino-acids is still uncertain. Glycopexy is well known since Claude Bernard's investigations. Adipopexy can be seen histologically and determined clinically. Chromopexy (hemoglobin), toxicopexy and fixation of nontoxic substances (2 mg. of methylene blue) by the healthy liver are known. On the contrary, the hepatic barrier is open for substances assimilable directly by the whole body, like amino-acids and cholesterol.

General Endocrine Symptoms.—Sézary draws attention to symptoms which may be due to troubles of different glands. These general endocrine symptoms often cause uniglandular affections to be considered as pluriglandular. For instance, the increased tonus of the sympathetic in exophthalmic goiter may lead to a suspicion of increased action of suprarenals, and a lowered action of the same glands may be suspected because of the frequent asthenia and pigmentation. Other glands have been also incriminated in exophthalmic goiter. The question is whether the affection of the thyroid alone cannot explain all of these symptoms. The correlated action of the glands is a fact, and there is not sufficient ground to assume a pluriglandular affection. Melanoderma may occur in hepatic insufficiency, exophthalmic goiter, tumors of the pituitary, and affections of ovaries and testicles, without histologic changes in the suprarenals. Asthenia is another general endocrine symptom. Obesity can originate in affections of many glands. Amyotrophy, infantilism, virilism, have various causes. The general endocrine symptoms explain cases of supposed pluriglandular affections without corresponding histologic findings.

Revue de Médecine, Paris

1922, **39**, No. 8-9

*Nervous Manifestations in Endocarditis. Claude and Oury.—p. 449.
Anemia of Pernicious Type of Tuberculous Origin. G. Bickel.—p. 470.
*Thymic Death in Young Woman. A. Pulawski.—p. 495.
Diseases with Neurotropic Virus. H. Godlewski.—p. 500. Cont'n.

The Nervous Manifestations in Endocarditis Lenta.—At the onset of the malignant endocarditis in the woman, aged 25, symptoms of meningitis predominated. Other symptoms suggested irritation of the pyramidal tracts, and aphasia was pronounced. The endocarditis was not recognized for several weeks. The diagnosis had been meningitis, and a tuberculous origin had been considered. This case and some others cited confirm the existence of malignant endocarditis with symptoms almost exclusively cerebromeningeal. The negative spinal fluid findings and positive blood cultures give the clue. The diversity of the nervous symptoms is also instructive. Meningeal and pyramidal disturbances are rarely found associated in true meningitis.

Thymic Death in Adult.—The woman, aged 29, died after an attack of hysteria following a quarrel with her fiancé. She was sleeping calmly at the time, and her death seemed inexplicable until necropsy revealed the large thymus (47 gm.) and hyperplasia throughout the lymphatic system. This is the second thymic death Pulawski has encountered within two years. In this patient the brain seemed to be too large for the skull.

Archivio di Ostetricia e Ginecologia, Naples

November, 1922, **16**, No. 1

*Cicatricial Atresia of Vagina. S. Piccoli.—p. 3.
*Glycuronuria in Pregnancy. C. Volpe.—p. 10.
*Placental Grafts. F. Spirito.—p. 32.

Cicatricial Atresia of Vagina.—Piccoli describes a case of complete cicatricial atresia of the vagina with hematocolpos after a complicated delivery. The plastic operation which relieved the condition is described in detail.

Spontaneous and Induced Glycuronuria in Pregnancy as an Index of Liver Function.—Volpe examined fifty-five pregnant women and thirty-nine after delivery for spontaneous excretion of glycuronic acid, and for that induced by injections of camphorated oil. Although absence and diminution of glycuronic acid are not sure signs of liver insufficiency, they should be periodically looked for in pregnancy.

Placental Grafts.—Spirito repeated Romano's injections of placental emulsions into the peritoneum of rats, and used also emulsions of other organs and placentas from other species. Some of the placental and other tissues survived after seven months, and appeared to be organized. Heterologous placentas gave almost the same results.

Chirurgia degli Organi di Movimento, Bologna

November, 1922, **6**, No. 6

*Fusion of Atlas with Occipital Bone. M. Lupo.—p. 625.
*Symmetrical Hereditary Osteitis. M. Camurati.—p. 662.
*Treatment of Contracture of Fingers. S. Ciaccia.—p. 666.
Coxa Plana from Tuberculous Osteitis of Neck of Femur. M. Camurati. —p. 685.
*Supracondylar Fracture of Humerus in Children. F. Satta.—p. 689.
Pathogenesis of Talipes Equinus. L. Della Valle.—p. 705.

Fusion of Atlas with Occipital Bone.—Lupo explains the mechanism of what he calls occipitalization of the atlas. In five of the six cases illustrated the atlas seemed to belong to the skull rather than to the spine. The neck was short and torticollis was frequent.

Hereditary Osteitis.—The symmetrical osteitis involved the lower third of the femur and the upper two thirds of the tibia in both legs in a boy, aged 7. The disturbances were vague, with paroxysmal exacerbations. The father had had a similar affection at the same age but had outgrown it. Other instances were known in four generations—a total of ten cases. The disturbances had always subsided by the age of 20, and the subjects were otherwise healthy. All, with one exception, were males.

Contracture of the Fingers.—Ciaccia reviews the various disturbances from "rigidity of the hand," and the treatment required. He emphasizes the necessity for combating the circulatory, muscular and trophoneurotic changes in and around the joints.

Supracondylar Fracture of the Humerus in Children.—Satta's five cases confirm the excellent results from operative treatment in supracondylar fracture with grave dislocation of the epiphysis. The bone must be exposed for reduction, and it is best to secure the fragments with a nail. Healing is rapid and complete as is evidenced by the illustrations of the cases.

Policlinico, Rome

Dec. 15, 1922, **29**, Surgical Section No. 12

*Nonparasitic Cyst in Liver. O. Margarucci.—p. 649.
Changes in Intestine Above Stenosis. P. Marogna.—p. 677.
*Ligation of Hepatic Artery in Rabbits. B. Polettini.—p. 691.
*To Insure Continence of Artificial Anus. G. Baggio.—p. 697.

Nonparasitic Cyst in Liver.—Margarucci summarizes fifty cases of nonparasitic cystic affections of the liver with operative treatment. In another series of six cases the cyst was discovered at necropsy. He describes with illustrations two personal cases. The unilocular cystadenoma contained 8 liters of fluid in one case, and was safely removed. It had first attracted attention eight years before. In the other case, the myriads of small cysts forming the cystadenoma were all in the right lobe, and conditions were inoperable. The patients were women, aged 58 and 67.

Ligation of Hepatic Artery.—Polettini relates that five of the six rabbits in which he ligated the hepatic artery survived in apparently good health, and the changes in the liver were minimal in the one that died on the third night. There were

signs of degeneration in the liver of those killed later. It is evident that the blood supply of the liver does not suffer materially from a ligature around this one artery.

Continence of Artificial Anus.—Baggio compares the different means that have been devised to insure continence. None, he comments, are completely successful. He favors mechanical occlusion which can be removed when the desire is felt. On the cadaver, he has found that passing the stump of the bowel through one buttonhole in the transverse and another in the oblique muscle squeezes the bowel flat by muscular tension when the trunk is erect. The passage gapes and the lumen opens up when these muscles relax as the trunk is bent forward. He has found this operation simple and apparently effectual on the cadaver, but has not tried it on the living subject.

Archivos Latino-Amer. de Pediatría, Buenos Aires

November, 1922, **16,** No. 11

*Diabetes in Children. P. Nobécourt et al.—p. 705.
*Hydatid Cyst in Child Brain. Morquio.—p. 710.
*Infant Welfare Work. Clemente Ferreira.—p. 720.
*Triplets of Tuberculous Mother. M. Armand Ugón.—p. 744.
*Tardy Inherited Syphilis. José Bonaba.—p. 748.
Aphasia and Quadriplegia in Child with Typhoid. Cavazutti.—p. 756.
*Intraperitoneal Infusion in Infants. R. O. Crola.—p. 761.
Meningeal Syndrome in Hydrocephalus. A. Segers.—p. 764.
Cephalic Tetanus in Infant. J. C. Navarro.—p. 769.
*Typhoid Phlebitis. F. Pozzo.—p. 772.

Diabetes in Children.—Nobécourt, Bidot and Paraf call attention to diabetes in children with arrest of growth. A typical case is described in which the girl, aged 15, looked only 12. The diabetes developed at the age of 13. The child was fairly well nourished, but it was impossible to free the urine from sugar. Loss of weight and general depression followed too strict dietetic measures.

Hydatid Cyst in Brain of Children.—In one month Morquio had three cases in his service. The operation proved successful in only one, a boy, aged 6. His total of seven certain cases and three suspects in a few months has confirmed the absence of eosinophilia in echinococcus cyst of the brain.

Report of the Public Health Service.—Ferreira, director of the child welfare section for the state of S. Paulo, reports the death rate as 4.3 per cent. among the 1,081 infants supervised. The general infant death rate in the city of S. Paulo for the year was 24.3 per cent.

Triplets of a Tuberculous Mother.—The three children are thriving and the mother's general condition has improved since delivery. The triplets were removed at once, and tuberculin tests have been negative.

Tardy Inherited Syphilis.—The apparently healthy girl, 9 years old, was in the hospital for treatment of chorea of emotional origin. She recovered, but developed hydrarthrosis of both knees and keratitis. Rapid improvement under specific treatment confirmed the syphilitic origin. The great danger in these tardy cases is that the readily curable lesions may be mistaken for tuberculous affections. A negative Wassermann reaction in children is not decisive. Bonaba cites a case in which the skin, gland, bone and other lesions all melted away under specific treatment after having persisted for nine years. In Laurent and Müller's case forty years elapsed before the true nature of the process was recognized.

Intraperitoneal Infusion.—Crola injected physiologic saline or sugar solution into the peritoneum in sixteen infants with alimentary toxicosis. The benefit was prompt and pronounced in ten of the children. The amount was never more than 50 gm. at one time, and 100 gm. in the twenty-four hours.

Typhoid Phlebitis.—The girl, 10 years old, was convalescing from typhoid when phlebitis occurred in the right femoral vein. The leg was put in a splint and the fever subsided in seventeen days. The splint was removed five days later, with complete recovery.

December, 1922, **16,** No. 12

*Habitual Vomiting in Infants. M. Acuña.—p. 785.
*Congenital Ataxias. J. Orrico.—p. 799.
Chronic Tropho-Edema. A. Casaubón and A. Pepa.—p. 810.
Scurvy in Infant. M. Armand Ugón.—p. 815.
Herpes Zoster and Varicella. M. A. Guerrero.—p. 818.

Habitual Vomiting in Infants.—Acuña relates that five infants with inherited syphilis were promptly cured of incessant vomiting by systematic mercurial treatment. In three other infants there was nothing to indicate an inherited taint, but the habitual vomiting was arrested by mercurial treatment just as promptly and completely as in the other group.

Congenital Ataxia.—The ataxia was of the cerebellar spastic type in two boys, 5 years old. It had been noticed at the first attempts to walk.

Brazil-Medico, Rio de Janeiro

Dec. 2, 1922, **2,** No. 48

*Operative Treatment for Ptosis of Eyelid. E. Campos.—p. 345.
Flagellates of Human Intestine. III. A. Marques da Cunha and G. Pacheco.—p. 349. Idem. IV. Idem.—p. 357.
*Avidity of Antitoxins. R. Kraus and Rocha Botelho.—p. 349.
Brazilian Vegetable Oil in Leprosy. Belmiro Valverde.—p. 353.
Mosquitoes of Cellia (Theobald) Species. Neiva and Pinto.—p. 355.

Operative Treatment of Ptosis of Eyelid.—Campos remarks that the large number of methods for correction of ptosis indicates that none is entirely satisfactory. He found Panas' method disappointing. The Hess method gave excellent results in two congenital cases. The weak point in all methods is that the results are not symmetrical. In one case an attack of supra-orbital neuralgia with transient conjunctivitis in a hysteric young woman had entailed ptosis which persisted for nine years. An operation on the eyelid was followed by complete cure of both ptosis and neuralgia. Campos adds that possibly strapping up the eyelid with adhesive plaster might have proved equally effectual.

Titrating Antitoxins.—Kraus reports further research to confirm his statements that the antitoxin acts on the toxin not only in proportion to its quantity but also to its avidity. The latter is a variable quality, and the antitoxins should be titrated for it. He reiterates that Ehrlich was mistaken in his assumption that the preventive and the curative action of an antitoxin necessarily run parallel.

Prensa Médica Argentina, Buenos Aires

Nov. 10, 1922, **9,** No. 16

*Leprosy in Argentina. M. Aberastury.—p. 447. Conc'n in No. 17.
Prophylaxis of Malaria. A. Bachmann.—p. 456.
Blastocystis Hominis in Diarrheic Stools. S. Mazza.—p. 460.
*Arcus Juvenilis. Esteban Adrogué.—p. 463.
Proposed Changes in Military Medical Service. C. Trejo.—p. 466.
Stenosis of Pylorus from Gallstone. E. Pozzi.—p. 471.

Leprosy in Argentina.—This is the report presented at the recent American Leprosy Congress by the official delegate from Argentina.

Arcus Juvenilis.—Adrogué gives illustrations of two cases. The location and aspect in the eyes of the young man were exactly like those of senile arcus. In the other patient, a girl, aged 13, one eye presented this type; in the other eye there was in addition an embryonal cataract.

Nov. 30, 1922, **9,** No. 18

*Gallstone Operations. A. J. Bengolea.—p. 517.
*Ovarian Tumors in the Pregnant. D. E. Centanaro.—p. 533.
Methods for Testing Arterial Pressure. A. Navarro.—p. 538.
*Treatment of Tuberculous Epididymitis. Astraldi.—p. 541.

Gallstone Operations.—Bengolea tabulates the details of operation and the results, immediate and remote, in 271 cases of cholelithiasis. In 7 cases a second operation was required for recurrence of symptoms. Gallstones were found in the common bile duct in 2 cases. The mortality as a whole was 4.79 per cent. and of 203 cholecystectomy cases, 1.92 per cent.

Ovarian Tumors in Pregnancy.—Centanaro analyzes 19 cases of ovarian tumors complicating pregnancy. He agrees that removal of the tumor is the only means to guarantee against interference with delivery. A further argument for prompt removal is the liability to malignant degeneration later.

Conservative Treatment of Tuberculous Epididymitis with Fistula.—Astraldi assumes that the epididymitis is of hematogenous origin, and secondary to a tuberculous process in the seminal vesicles or prostate. Hence he severs the vas deferens between two ligatures. Two cases are described.

Archiv für klinische Chirurgie, Berlin

Oct. 28, 1922, **120**, No. 4

*Double Nerve Grafting. P. Manasse.—p. 665.
*Mammary Cancers in Men. A. Mülleder.—p. 686.
*Traumatic Epithelial Cysts. K. Blond.—p. 695.
*Local Changes in Structure of Bone. H. Maass.—p. 704.
Origin of Loose Bodies in Joints. A. Hartwich.—p. 732.
Regeneration of Bone from Periosteum. B. Martin.—p. 744.
Plastic Operation for Flail Knee. R. Bonn.—p. 751.
*Perforated Gastric and Duodenal Ulcers. J. Prader.—p. 758.
Appendicular Peritonitis. E. Melchior.—p. 796.
*Collateral Circulation in Portal System. F. Walcker.—p. 819.
Appendicitis and Peritonitis in the Pregnant. A. Szenes.—p. 859.
Isolated Luxation of Scaphoid Bone. E. Just.—p. 879.

Double Nerve Grafting.—Manasse expatiates on the ease and good results of implanting both stumps of the injured nerve in an adjacent sound nerve. The sound nerve thus gets the benefit of the nerve fibers that develop between the stumps and bridge the gap. In all of the eight cases in which this *doppelte nervenpropfung* was applied, the radial paralysis was more or less completely corrected. In one case, absolutely normal function was regained. The details of the cases are given with illustrations of the technic.

Mammary Cancers in Men.—This communication from Eiselsberg's service at Vienna confirms that fully 2 per cent. of all mammary cancers occur in men. There were twelve cases in men to 600 in women during the last twenty years at the clinic. Mammary cancers in men seem to be exceptionally malignant, with early metastasis in the spine. If an excised scrap shows cancer, the growth should be removed immediately.

Traumatic Epithelial Cysts.—Blond concludes from six cases that these tumors should be called epidermoids when congenital. Several in his group were traumatic epidermoids.

Local Development of Bone.—Maass insists that the organic and the mechanical work of the growing bone have to be considered separately. The predisposition to deformity of the bone lies in the muscles rather than in the bone. If the muscles are kept habitually in the fatigue position, pathologic pressure and weight bearing exert a much stronger influence than when the muscles are normal. The bone may yield, regardless of whether it is abnormally soft or not. Even temporary pressure or traction is liable to switch the growth of the bone onto a wrong track. Even a slight injury, entailing merely temporary shriveling or contracture of soft parts, may lead to severe deformity of bone which is completely normal in itself.

Perforated Gastric and Duodenal Ulcer.—In the 51 cases analyzed, the 19 perforated duodenal ulcers, and 28 of the 32 perforated gastric ulcers were in men. In 5 cases the perforation occurred in apparent good health; in 5 other cases, during bed rest; in 12 after a brief period of stomach symptoms. The importance of primary suture of the abdominal wall is emphasized by the ultimate outcome. Tampons and gauze induce local retentions liable to entail complications later. Even with profuse escape of stomach and duodenum content into the abdominal cavity, healing proceeded smoothly after primary suture in most of Prader's 17 cases. The interval before the operation was less than ten hours in 13 of them. In the one fatal gastric case and the fatal duodenal case the interval had been twenty-one and eighteen hours, respectively. The effusion from the reaction to the perforation is not a peritonitic effusion at first. No bacteria were found in the peritoneal effusion in 4 of the 10 cases examined during the third or fourth hour, and in one case at the twelfth hour. The acidity in these cases was high, from 10 to 15. This probably helped to check bacterial proliferation, until the reaction veered from acid to alkaline. The acidity, the bacteriologic findings, and the length of the interval decide whether primary suture can be ventured.

Collateral Circulation in Portal Vein System.—Walcker comments on the great variety of anastomoses.

Klinische Wochenschrift, Berlin

Dec. 9, 1922, **1**, No. 50

*Etiology of Goiter. A. Schwenkenbecher.—p. 2457.
*Death from Goiter. F. J. Lang.—p. 2461.
*Water Metabolism. R. Siebeck.—p. 2464.
*Test Glycosuria in Pregnancy. Gottschalk and Strecker.—p. 2467.
*Determination of Bilirubin in Blood. A. Adler and E. Meyer.—p. 2468.
*Experimental Recurrentis Infection. A. Buschke and H. Kroó.—p. 2470.
*Prophylaxis of Measles. E. Schilling.—p. 2471.
Treatment of Blood Poisoning in Anthrax. E. Baumann.—p. 2472.
*Simple Acroparesthesia. F. Heissen.—p. 2473.
Sun Irradiation at Different Altitudes. F. Baur.—p. 2476.
Coagulation of Serum by Heat in Syphilis. E. Hachez.—p. 2477.
*Non-Protein Nitrogen and Toxicoses of Pregnancy. Hellmuth.—p. 2478.
Bilateral Trigeminal Neuralgia Due to Lymphoma of Both Gasserian Ganglions. R. Henneberg.—p. 2479.
Treatment of Abortion. F. Götting.—p. 2480.
To Bring Undernourished Children up to Normal. Davidsohn.—p. 2483.
Nature of Coagulation of Blood. B. Stuber.—p. 2486. Conc'n.

Etiology of Goiter.—Schwenkenbecher reviews the different theories of the etiology of goiter.

Conditions Leading to Death in Goiter.—Lang discusses conditions which may lead to sudden death in persons suffering from goiter. One group is due to the toxic influence on the cardiac nerves. The persistence of the thymus in these cases points to the possibility that the cause of the sudden death may be more complex. Compression of the trachea is more pronounced in deeply or abnormally located goiters than in large ones which can expand freely. Lang discusses the causes for expiratory stenosis in intrathoracic goiter and inspiratory stenosis in goiter of the neck. The function of the nonstriated musculature of the lung is one of the important factors to be considered.

Fundamental Features of Water Metabolism.—Siebeck's opinion is that the exchange of water between blood and the tissues depends upon all three components: the blood, the endothelium of the vessels and the tissue. Any explanation which considers only one of these three points is unsatisfactory. The question whether the exchange of water is conditioned by a vital secretion and resorption, or simply by diffusion, is not stated correctly. There is no question about the existence of diffusion in living bodies, but the point to be studied is the regulation and coordination of this diffusion. Siebeck considered erythrocytes as a good object for such study, and found a very constant relation (1:2) of chlorids between erythrocytes and serum. According to Warburg, narcotics of the aliphatic series inhibit the diffusion of chlorids from the corpuscles, when applied in concentrations in which they inhibit oxidations. Relations to the surface tension were also distinct, and Siebeck concludes that diffusion is regulated by the dispersity of protoplasmic surfaces, which can be changed by surface-active substances. Such a physical coordination is not limited to single points, but affects the whole organism. The question whether the regulation of water is renal or extrarenal, is wrong; both factors are important, and the main point is the coordination of the whole organism.

Alimentary Glycosuria in Pregnancy.—Gottschalk and Strecker give to pregnant women 100 gm. of levulose by the mouth on an empty stomach. Levulosuria is a probable sign of pregnancy, although a negative result does not exclude it. Renal excretion of sugar seems to be more frequent in the early than in the advanced stages of pregnancy.

Elimination of Sources of Error in Determination of Bilirubin in Blood.—Adler and Meyer use Thannhauser's modification of van den Bergh's technic, but do not evaporate the chloroform from the bilirubin solution. It is sufficient to add alcohol until the chloroform dissolves in it. They use Ostwald's absolute colorimetric method for the determination, and note the color only once with the standard solution. Adsorption of bilirubin to the albumins can be prevented by diluting the serum.

Presence of Spirochetes in Brain in Experimental Recurrens.—Buschke and Kroó examined histologically brains from mice infected with *Spirochaeta recurrentis*. The spirochetes were present in large numbers in the gray matter of the brain, between the cells and in the cells of the glia, but never in the ganglion cells nor in the white matter. The spirochetes had invaded the brain in large numbers twenty-four hours after the infection, when there were only few in the blood.

Prophylaxis of Measles.—Schilling had good results with injections of serum from convalescents. As few adults are subject to measles, it is impossible to obtain sufficient quantities of serum. Further investigations are necessary to determine whether nonspecific proteins have any protective value.

Simple Acroparesthesia.—Heissen describes acroparesthesias without visible spasm of the vessels.

Nonprotein Nitrogen and Toxicoses of Pregnancy.—Hellmuth found, in healthy pregnant women, low nonprotein nitrogen in the blood: 0.03 per cent. was the highest. Urea nitrogen constitutes about 30 per cent. of the total nonprotein nitrogen in pregnancy. Uric acid figures are about the upper normal limit; creatin and creatinin are normal. In eclampsia and nephritis in pregnant women, the total nonprotein nitrogen was maximum normal, while the proportion of urea nitrogen was increased. Uric acid was increased in all of these cases.

Zeitschrift für Geburtshülfe und Gynäk., Stuttgart

Oct. 28, 1922, **85**, No. 2

Genesis of Intraligamental Fat Infiltration with Ovarian Dermoid Cysts. R. Benda.—p. 225.
Anatomy of Lower Segment of Uterus. H. R. Schmidt.—p. 233.
Adenomyosis of Female Genitals. W. Lahm.—p. 292.
*Origin of Genital Flora. R. Salmon.—p. 306.
*The Bladder During Delivery. E. Vogt.—p. 333.
*Biologic Changes in Blood During Pregnancy. K. v. Oettingen.—p. 340.
Action of Combination of Organ Extracts on Uterus. Kosaka.—p. 364.

Origin of Genital Flora.—Salomon took smears every hour from the mouth of girl babies for ten days after birth. This research was part of an extensive study of the genital flora in women. The findings confirm anew the paramount importance of asepsis in the care of the new-born.

The Bladder During Delivery.—Vogt calls attention to the symptoms liable to develop when the bladder is pushed out of place during childbirth. It may be pushed entirely outside of the peritoneum, low down in the pelvis, and here interfere with the dilation of the soft parts. If this impediment to delivery is not recognized and corrected, the bladder or the uterus may rupture from the strain. Two cases are described in detail, in which catheterization of the bladder allowed the delivery to proceed smoothly. In two other cases the bladder had been forced into an hour-glass shape. The causes for this extraperitoneal displacement of the bladder may be various, mechanical or pathologic. The obstetrician should be on the lookout for them.

Biologic Reactions in the Blood During Pregnancy.—Oettingen remarks that uniform causes are probably responsible for the parallel behavior of the biologic reactions in the blood during pregnancy. We have six biologic tests at our command, speed of sedimentation of the erythrocytes, precipitation and coagulation of the plasma, agglutination of bacteria, action of hemolytic serum, and cobra venom activation.

Zeitschrift für klinische Medizin, Berlin

Nov. 30, 1922, **95**, No. 4-6

*Treatment by Inactivation of Protoplasm. J. Burmeister.—p. 237.
*Endocrine Obesity. A. Loewy and H. Zondek.—p. 282.
*Intraspinal Arsphenamin Treatment. A. Wittgenstein.—p. 293.
*Monocytes. H. W. Wollenberg.—p. 321.
*Pathogenesis of Typhoid. H. Oeller.—p. 328.
*Action of Epinephrin in Blood Diseases. A. Hittmair.—p. 367.
*Influence of Carbohydrates on Blood Sugar. W. Eliassow.—p. 384.
*Alimentary Glycosuria. J. E. Holst.—p. 394.
*Infusions of Glucose in Heart Disease. R. Niemeyer.—p. 405.
*Hemoclastic Crisis. H. Eisenstädt.—p. 414.
*Uric Acid Determination. J. Rother.—p. 427.
*Clinical Import of Stalagmometry. F. Breuer.—p. 433.
*Endemic Osteomalacia and Late Rachitis. H. Higier.—p. 445.
*Bilirubin in Serum and Bile. G. Hetényi.—p. 469.

Treatment by Nonspecific Passive Protection or Inactivation of the Protoplasm.—Burmeister reviews extensively the field of protein therapy and of calcium therapy. The aim of passive-protection treatment is to suppress the reaction of the body to the toxic agent, because a disease begins only by the reaction of the cells. In such cases, the organism overcomes the infection simply by not taking notice of it: The protoplasma is inactivated against it. It is not yet certain in every instance which drugs activate the protoplasma and which inactivate it. Proteins seem to be activating; heavy metals, calcium, quinin and some dyes inactivate. The symptoms of activation correspond surprisingly to those of exophthalmic goiter, while inactivation is well represented in myxedema.

Endocrine Obesity.—Loewy and Zondek found normal metabolism in pituitary obesity. They emphasize the clinical picture of localized obesity (especially in upper or lower extremities) which is in relation to some changes in the endocrine apparatus, but does not present any of the typical pictures. These cases cannot be explained by a lowering of basal metabolism, and thyroid treatment may reduce the whole body except these masses of fat. It looks as if in a certain sense they might lie outside of the general metabolism. These cases resemble Simon's lipodystrophy. One case of obesity had a low excretion of water, which became normal after thyroid treatment.

Endolumbar Treatment with Arsphenamin.—Wittgenstein reports her experiences in 300 intraspinal injections of arsphenamin. She never saw a severe or permanent injury from the small doses (⅓ mg. to 2 mg.) given in large amounts of cerebrospinal fluid, without undue pressure. Cerebrospinal syphilis and especially lumbar tabes are very sensitive; ⅔ mg. is a maximal dose and should be given in at least 60 c.c. of cerebrospinal fluid. Asymptomatic syphilis of the meninges requires from 1 to 1.8 mg. in 50 or 90 c.c. of fluid. The patient must be kept strictly in a horizontal position for forty-eight hours after the injection, which is repeated in from three to four weeks. In all cases of clinically asymptomatic syphilis of the meninges, the Wassermann reaction became negative. The reaction should be tested every six months. For recurrences, two more injections are sufficient. The results were better in the combined treatment with intravenous and intraspinal injections than with intravenous injections alone. The method did not give satisfactory results in general paresis. The cerebrospinal fluid should be examined in every case of latent syphilis, and the public should be educated to permit this.

Monocytes.—Wollenberg confirms Lucey's observation that the first two blood drops taken from the tip of the ear contain, in many cases, monocytes. Endocarditis lenta leads perhaps to a specific proliferation of the endothelium of all capillaries, especially in the tip of the ear.

Pathogenesis of Typhoid.—Oeller does not differentiate strictly between typhoid fever with extensive changes in the lymphatic apparatus and typhoid sepsis. The latter is due to the inability of the cells to fix the virus (a parallel to the leukopenia). If this inability is complete, pure septicemia results. The hopeless fight is limited in such cases to the blood stream and hemopoietic organs, which act only serologically on the bacteria. New-born children with typhoid infection present sometimes such a state. Streptococcus infections may have points in common with this conception of typhoid. Oeller observed streptococcus and staphylococcus septicemias which recovered after a transitory pyemic stage (localizations in skin and joints).

Action of Epinephrin in Blood Diseases.—Hittmair examined the blood after injections of epinephrin in different diseases of the hemopoietic system. He found no specific changes.

Influence of Carbohydrates on Blood Sugar.—Eliassow used 50 gm. of glucose and equicaloric amounts of levulose, wheat flour and inulin in twelve sugar-free diabetics, and examined their blood and urine. Glucose increased the glycemia strongly, wheat flour less, levulose markedly less, and inulin not at all. He believes that the slow resorption of inulin accounts for this.

Alimentary Glycosuria.—Holst examined the urine of 155 persons, without apparent trouble in carbohydrate metabolism, after an ordinary sweet meal; 19.5 per cent. of them became glycosuric. The amount of carbohydrates in the meal was smaller than the amount usually necessary to produce alimentary glycosuria. It would be a mistake to treat these persons as diabetics, but they should be advised to eat less sugar, and to have the urine examined periodically.

Infusion of Glucose in Heart Disease.—Niemeyer did not find hypoglycemia in heart trouble more frequently than in healthy people. Arteriosclerotics with a tendency to spastic contractions of vessels do not feel well after infusion of highly concentrated solutions of glucose. Contrary to Büdingen, Niemeyer saw no marked therapeutic results from such infusions in heart disease.

Hemoclastic Crisis.—Eisenstadt confirms generally Widal's test leukopenia, but believes that in diseases of the liver it represents rather a special instance of an "abdominal vagus reflex" (Glaser). He does not attribute any value to it for the clinical diagnosis of liver disease.

Uric Acid Determination.—Rother admits that the Folin-Wu method gives very exact values of uric acid in pure solutions. Yet the coagulated proteins of the blood may retain a considerable quantity of uric acid. There is no known method which will prevent this.

The Stalagmons in Cancer.—Breuer used Schemensky's method in sixteen ulcers of the stomach, sixteen carcinomas of the stomach, and eighteen other cases (mostly tumors). Stalagmons are colloidal substances which change the surface tension. They are easily absorbed by animal charcoal, and the principle of the method is to determine the surface tension of urine before and after this treatment. The urine is brought to a specific gravity of 1.010 and one portion is used directly and another after acidifying with hydrochloric acid to the point of change of Congo-red. The relation between the number of drops before shaking with charcoal and the number counted after it, is the stalagmometric quotient. Breuer's results were very good, but it seemed that the tumor must be of a certain size before an increase of the stalagmometric quotient appears. Nonspecific reactions also occur.

Endemic of Ostearthropathy, Osteomalacia and Late Rachitis.—Higier observed during the second half of 1917, in Warsaw, seventy cases of osteomalacia in people between 19 and 56. Lack of vitamin A was the probable cause.

Simultaneous Determination of Bilirubin in Serum and Bile as Efficiency Test for the Liver.—Hetényi determined the bilirubin in blood and bile by Hijman van den Bergh's method. He considers amounts of bilirubin under 6 mg. or over 20 mg. in 100 c.c. of bile, or over 2.2 mg. in blood, as pathologic. Laennec's cirrhosis gave increased amounts in blood, low in bile. Decompensation of the heart gave normal or increased concentration of bilirubin in bile. The liver function is sometimes impaired in the course of pernicious anemia. A number of other diseases were also tested.

Zeitschrift für urologische Chirurgie, Berlin

Oct. 7, 1922, **11**, No. 1-2

*Bilateral Pneumococcus Paranephritis. H. Hammer.—p. 1.
Hypoplastic Kidney with Twin Ureters Opening in Ejaculatory Duct. W. Rech.—p. 6.
*Cystic Enlargement of Lower Ureter. F. Hübner.—p. 25.
*Case of Syphilitic Disease of the Bladder. R. Picker.—p. 43.
Congenital Cleft Abdomen. G. B. Gruber.—p. 51.

Bilateral Pneumococcus Paranephritis.—Both kidneys were entirely covered with a thick exudate, a phlegmon of the adipose tissue surrounding the kidneys. There had been no symptoms, no fever, although the infection must have been of nearly four months' standing. The pneumococcus was cultivated from the paranephritic process.

Cystic Enlargement of Lower Ureter.—Hübner has compiled from the literature more than 100 cases of operative treatment of intravesical ureterocele. He discusses the mechanism and the operative technic, with an illustrated description of a personal case. The patient was a woman, aged 28, who had had pains in the right inguinal region since the age of 16. The pain varied in severity but persisted constantly, with occasional colic-like paroxysms. It was relieved by reclining on the right side. The superfluous mucosa was resected after a catheter had been introduced into the ureter, and the mouth of the ureter was reconstructed with four stitches. There has been no return of symptoms since.

Syphilitic Disease of the Bladder.—Picker's illustrations show the cystoscope findings in a young man who complained of increased frequency of urination, with smarting and itching in the urethra. There was no hematuria, but the bladder mucosa was swollen and bluish near one ureter. In the patch were two small necrotic gummas, with a small recent one adjoining. Under two months of iodid the cystoscopic findings returned to normal. Picker does not hesitate to advise tentative potassium iodid treatment in large doses for two or three weeks with bladder symptoms which do not fit into the usual frames, even when tests for syphilis are negative.

Zentralblatt für Chirurgie, Leipzig

Dec. 16, 1922, **49**, No. 50

*Treatment of Esophageal Strictures. A. Henle.—p. 1850.
Plastic Operation to Restore Patella. S. Kofmann.—p. 1851.
Suturing, Following Resections, of Portions of Intestine Not Covered with Peritoneum. F. Mandl and M. Gara.—p. 1855.
Encapsulated Residual Abscess as Cause of Fistulas After Appendicectomy. M. Cohn.—p. 1858.
Comment on Chiari's "No Tampons for Incision Wounds." Hedri.—p. 1861. Idem. Wolf.—p. 1862.
Addendum to "Treatment of Coxa Vara." E. Bircher.—p. 1863.

Treatment of Esophageal Strictures.—Henle describes his success in treating esophageal strictures. On account of difficulties from kinking in the introduction of rubber tubes into the esophagus, Henle had a number of smoothly polished ivory "olives" made, of varying diameter, the length varying with the diameter. The olives were strung on a silk cord at intervals of from 10 to 12 cm. A knot tied above and below each olive served to keep it in place. In treating a child, aged 3, who had swallowed, six months previously, a caustic fluid, he introduced two threads into the esophagus, passed one thread, to serve in an emergency, out through the nose, and the other through the mouth. Once or twice daily, he attached the string of olives, well oiled, to the thread passing out of the mouth. The smaller olives were below, with the more conical ends downward. Through a gastric fistula, the string of olives was then drawn through the esophagus. As the olives passed the stricture, a certain resistance was noted, which served to give an idea as to the position and length of the stricture, and also whether there was more than one stenosis. In the case given, there were two strictures 5 cm. apart. At first he used olives of from 3 to 7 mm. diameter. Then the olives of smaller size were left off and larger ones were added to the string as needed. After the size 11 mm. passed through readily, longer intervals (two or three days, and later, two weeks) were allowed to elapse. In the meantime, the child had, for some time, eaten solid food—bread with the crust—without any difficulty. Therefore, the stomach drain and the threads were removed. The treatment was completed before the end of six months. The child continues in good health and has no trouble in eating any kind of food. The gastrostomy, which was performed before the case was referred to Henle, healed spontaneously.

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Dec. 9, 1922, **46**, No. 49

*Etiology of Leukorrhea. R. T. von Jaschke.—p. 1938.
Heart Block and Spontaneous Childbirth. W. Walz.—p. 1941.
*Researches on Blood Transfusion. L. Nürnberger.—p. 1945.
*Rate of Sedimentation of Erythrocytes. R. Pewny.—p. 1951.
Normal Pregnancy Three Years After Operative Reduction of Complete Inversion of Puerperal Uterus. K. Teufik.—p. 1956.
*Roentgen Irradiation in Gynecologic Hemorrhage. Hirsch.—p. 1957.
Note on Torsion of Fallopian Tube. J. Schwartz.—p. 1959.
Torsion of Healthy Adnexa in Childhood. F. Neugebauer.—p. 1961.
Zeiss Method of Illuminating Operating Room. Hartinger.—p. 1962.

Etiology of Leukorrhea.—Jaschke refers to the researches by Manu af Heuerlin which go to show that, with rare exceptions, leukorrhea is associated with an abnormal flora. It likewise seems proved that a normal flora of the vagina cannot be preserved unless the vaginal wall remains biologically intact. The glycogen depots that have been shown to exist in the vaginal epithelium also play an important rôle, since glycogen is doubtless the most important precursor of lactic acid, which produces the normal acid reaction of the vaginal secretion and prevents abnormal bacterial growth. The normal, healthy vagina eliminates very soon bacteria that do not belong there. Jaschke's researches show that there is a parallelism between the glycogen content and the lactic acid content, on the one hand, and the condition of the bacterial flora. A low amount of glycogen and lactic acid was very commonly associated with contamination of the vaginal secretion. There were, however, many exceptions and inconsistencies, so that the subject needs to be studied further.

Clinical and Experimental Researches on Blood Transfusion.—Nürnberger compared the blood of donor and recipient biologically; that is, search was made for hemolysins and hemagglutinins. Irrespective of the result, the recipient was given a preliminary dose of 10 to 20 c.c. of the donor's

blood. Then several minutes were allowed to elapse to see whether or not any manifestations would occur in the recipient. If typical symptoms of transfusion shock appeared (dyspnea, cyanosis, restlessness, a feeling of oppression in the chest, weakening of the pulse, heat flashes over the body, and pain in the back), the transfusion was stopped; but if not, the transfusion was completed. If only hemolysins were present (irrespective whether in the donor's or the recipient's blood), he never observed the slightest disturbance. The presence of hemagglutinins in the donor's blood seldom had any bad effect, but in all cases in which hemagglutinins were found in the recipient's blood, there appeared typical symptoms of transfusion shock. This confirms the findings of various other writers.

Rate of Sedimentation of Erythrocytes as a Diagnostic Aid in Gynecology.—Pewny found that the rate of sedimentation could be used only during the later months of pregnancy to differentiate between gestation and myoma; during the first months of pregnancy it cannot be relied on. However, this test will differentiate between benign tumors without complications and malignant tumors, between hemorrhagic and serous tumors of the adnexa, between chronic and acute inflammations of the adnexa and between benign tumors of Douglas' pouch and inflammatory exudate or hematocele. If the blood to be tested has been allowed to stand, the rate of sedimentation will usually be retarded, which fact seems to indicate that, among other factors, colloidal changes play an important part in this test.

Indirect Roentgen-Ray Treatment of Gynecologic Hemorrhage.—Hirsch states that, by using 60 per cent. of an erythema dose, which was applied to the pituitary gland from two fields, he was able to produce a prompt inhibitive effect on metrorrhagia. He observed no bad effects or disturbances arising from this procedure. No sugar nor albumin appeared in the urine following such irradiation, and no disturbances of function were noted in the vegetative nervous system. In fifteen myomas, which were subjected to this treatment, unusually prompt retrogression occurred; the time was much shorter than had been required to accomplish this by ovarian irradiation. In four weeks the myomas often decreased from the size of a child's head or a fist to the size of a walnut. Immediately after irradiation, a distinct swelling of the uterus was frequently noted. In each individual case we must consider whether ovarian or hypophyseal irradiation should be employed. In the case of a growing organism, if roentgen-ray treatment of hemorrhage is to be considered at all, the pituitary gland, from which so many growth impulses go forth, should be avoided. For hemorrhages at the menopause, whether caused by a myoma or dysfunction of the ovaries, hypophyseal irradiation has special advantages, since the reduction in the function of the pituitary gland accelerates the retrogressive changes in the genitalia. This brings about a condition that corresponds more closely to the menopause than is accomplished by ovarian irradiation.

Dec. 16, 1922, **46**, No. 50

Pulvermacher and Torsion of Ovarian Cysts. H. Sellheim.—p. 1986.
Chemicobiologic Treatment of Leukorrhea. Schweitzer.—p. 1999.
*Etiology and Treatment of Tubal Pregnancy. Mauthner.—p. 2005.
Sex Determination. D. G. Wesselink.—p. 2011.
Neglect of Carcinoma Cases in Germany. H. Naujoks.—p. 2012.
Hematoma After Torsion of the Adnexa. H. Becker.—p. 2019.
Bacteriologic Indications in Febrile Abortion. E. Sachs.—p. 2021.

Etiology and Treatment of Tubal Pregnancy.—Mauthner does not deny the possible influence of mechanical factors, but he doubts whether they are dominant. The biologic factor must be considered. A damaged ovary may produce a pathologic product. The nonpregnant tube should not usually be removed, unless much changed. In the past, 40.5 per cent. of all his patients with tubal pregnancy have been sterilized.

Hospitalstidende, Copenhagen

Nov. 29, 1922, **65**, No. 48

Progressive Lipodystrophia in Man. V. Christiansen.—p. 801.
*Ovarian Pregnancy. K. Bierring.—p. 810.

Ovarian Pregnancy.—Bierring removed a cystic right ovary three months after suppression of the menses. The supposed cyst proved to be an ovum.

Dec. 6, 1922, **65**, No. 49

*Width of Bronchioles. C. Sonne.—p. 817. Conc'n No. 50, p. 841.
From Mendel to Morgan. History of Research on Heredity. O. Thomsen.—p. 831. Conc'n No. 51, p. 875.

Pathogenesis of Asthma.—The extensive experimental and clinical research reported was done to ascertain the relative width of the bronchioles, under different conditions, as a factor in asthma.

Dec. 20, 1922, **65**, No. 51

*Radioactive Substances in Soluble Form. S. Lomholt.—p. 863. Conc'n No. 52, p. 897.

Radioactive Substances in Fluid Form.—Lomholt discusses the application of alpha rays in skin disease. In forty-four cases of psoriasis all except one showed more or less favorable influence. Small recurring patches yielded promptly to the treatment. The only drawback is the brownish discoloration that it seems to entail. He used thorium X, dissolved in alcohol, to paint the surface. Actual cure in lupus and psoriasis is rare, but more or less benefit always followed the treatment.

Hygiea, Stockholm

Nov. 30, 1922, **84**, No. 22

*Epidemic Encephalitis. C. Kling.—p. 913. Conc'n.
History of Cancer in Sweden. V. Djurberg.—p. 926.

Epidemic Encephalitis.—Kling was unable to confirm statements as to the identity of herpes virus and the virus of epidemic encephalitis.

Ugeskrift for Læger, Copenhagen

Dec. 14, 1922, **84**, No. 50

*Case of Obesity with Arrhythmia. E. E. Faber.—p. 1741.
Associated Syphilitic Nervous Affections. H. Vedsmand.—p. 1744.
Experimental Optic Nystagmus. G. V. T. Borries.—p. 1748.
*Blepharitis and Its Treatment. H. Rønne.—p. 1752.
*Auricular Fibrillation in Hyperthyroidism. C. Schwensen.—p. 1756.

Obesity with Arrhythmia.—Faber's patient was a man 182 cm. in height who weighed 146 kg. There were signs of cardiac weakness. Under a course of Carell treatment, from 3,000 to 4,000 c.c. of urine was voided, the weight rapidly declined and the heart action improved. Under quinidin, the arrhythmia subsided but recurred. It finally subsided permanently, two weeks after suspension of the quinidin.

Blepharitis and Its Treatment.—Rønne declares that blepharitis is easily recognized and treated, and yet is frequently overlooked. A true hordeolum is a certain sign of blepharitis. The hard dry scab in the eyelashes must be removed. The main thing in treatment is persistence. The salve should be rubbed into the edge of the lids every night on retiring. Blepharitis of many years' standing will yield to systematic scraping off of the scales and application of the salve. If there is ulceration, all eyelashes involved should be pulled out. The fat in the salve is the main thing. Acute exacerbations promptly subside, but chronic blepharitis continues its course until conquered by patience and perseverance.

Auricular Fibrillation in Exophthalmic Goiter.—Subsidence of auricular fibrillation after operative treatment of exophthalmic goiter has been reported by Fridericia and others. Schwensen reports a case associated with irregular heart action and auricular fibrillation. The heart beat was 160, the radial pulse 100. After roentgen-ray treatment, the symptoms became much aggravated for five weeks but then improved, and the electrocardiogram soon became entirely normal. The right ventricle returned to normal size at the same time.

Dec. 21, 1922, **84**, No. 51

*Splenectomy in Pernicious Anemia. E. Holm.—p. 1781.

Splenectomy in Pernicious Anemia.—Holm says that the benefit from splenectomy in pernicious anemia was remarkably constant in the 85 cases compiled by Kriese. The blood improved as in a pronounced spontaneous remission, but the improvement did not last. In Holm's personal case, the erythrocytes numbered only 760,000 but they slowly increased after splenectomy to 1,725,000 in eleven months, and the general condition materially improved. Of Eppinger's 18 cases, 2 lived more than four years after the splenectomy, and 6 more than two years.